OM protein - protein search, using sw model

Run on: March 18, 2004, 06:15:34 ; Search time 36.7883 Seconds
(without alignments)
492.734 Million cell updates/sec

Title: US-10-066-009A-1
Perfect score: 385
Sequence: 1 GPETLCGAELVDALQFVCGD.....SCDLRRLEMYCAPLKPAKSA 70

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 1049977 seqs, 258955339 residues

Total number of hits satisfying chosen parameters: 1049977

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Published_Applications_AA:*
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18: /cgn2_6/ptodata/1/pubpaa/US60_PUBCOMB.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	385	100.0	70	9	US-09-848-664-29	Sequence 29, Appl
2	385	100.0	70	9	US-09-848-664-30	Sequence 30, Appl
3	385	100.0	70	9	US-09-903-327A-8	Sequence 8, Appli
4	385	100.0	70	10	US-09-858-935B-3	Sequence 3, Appli
5	385	100.0	70	12	US-10-444-649-1	Sequence 1, Appli
6	385	100.0	70	12	US-10-444-701-1	Sequence 1, Appli
7	385	100.0	70	13	US-10-028-410-1	Sequence 1, Appli
8	385	100.0	70	13	US-10-066-009A-1	Sequence 1, Appli
9	385	100.0	70	14	US-10-136-639-1	Sequence 1, Appli
10	385	100.0	70	14	US-10-136-841-7	Sequence 7, Appli
11	385	100.0	70	14	US-10-444-326-1	Sequence 1, Appli
12	385	100.0	70	15	US-10-272-531A-7	Sequence 7, Appli
13	385	100.0	70	15	US-10-272-483A-7	Sequence 7, Appli
14	385	100.0	70	16	US-10-444-262-1	Sequence 1, Appli
15	385	100.0	105	9	US-09-852-261-10	Sequence 10, Appl
16	385	100.0	105	14	US-10-238-114-3	Sequence 3, Appli
17	385	100.0	110	9	US-09-852-261-2	Sequence 2, Appli
18	385	100.0	118	14	US-10-179-046-14	Sequence 14, Appl
19	385	100.0	137	14	US-10-251-661-8	Sequence 8, Appli
20	385	100.0	153	9	US-09-919-497-74	Sequence 74, Appl
21	385	100.0	153	14	US-10-136-639-3	Sequence 3, Appli
22	385	100.0	153	14	US-10-238-114-2	Sequence 2, Appli
23	385	100.0	153	14	US-10-207-655-55	Sequence 55, Appl
24	385	100.0	155	9	US-09-921-398-39	Sequence 39, Appl
25	385	100.0	155	14	US-10-280-826-39	Sequence 39, Appl
26	385	100.0	191	9	US-09-921-398-41	Sequence 41, Appl
27	385	100.0	191	14	US-10-280-826-41	Sequence 41, Appl
28	385	100.0	195	15	US-10-443-466A-20	Sequence 20, Appl
29	385	100.0	510	9	US-09-903-327A-12	Sequence 12, Appl
30	385	100.0	953	14	US-10-241-596-14	Sequence 14, Appl
31	382	99.2	105	9	US-09-852-261-14	Sequence 14, Appl
32	382	99.2	111	9	US-09-852-261-6	Sequence 6, Appli
33	378	98.2	91	14	US-10-323-046-42	Sequence 42, Appl
34	365	94.8	133	14	US-10-161-088-2	Sequence 2, Appli
35	341	88.6	105	9	US-09-852-261-12	Sequence 12, Appl
36	341	88.6	111	9	US-09-852-261-4	Sequence 4, Appli
37	317	82.3	68	14	US-10-339-740-218	Sequence 218, App
38	300	77.9	56	13	US-10-066-009A-5	Sequence 5, Appli
39	223.5	58.1	46	9	US-09-205-658-138	Sequence 138, App
40	223.5	58.1	46	9	US-09-205-658-139	Sequence 139, App
41	223.5	58.1	46	10	US-09-963-693-138	Sequence 138, App
42	223.5	58.1	46	10	US-09-963-693-139	Sequence 139, App
43	223	57.9	67	13	US-10-066-009A-2	Sequence 2, Appli
44	223	57.9	67	14	US-10-136-639-2	Sequence 2, Appli
45	223	57.9	67	14	US-10-136-841-8	Sequence 8, Appli

ALIGNMENTS

RESULT 1
US-09-848-664-29
; Sequence 29, Application US/09848664
; Patent No. US20020146414A1
; GENERAL INFORMATION:
; APPLICANT: Sakiyama-Elbert, Shelly E.
; APPLICANT: Hubbell, Jeffrey A.
; TITLE OF INVENTION: Controlled Release of No. US20020146414A1-Heparin Binding Growtl
; TITLE OF INVENTION: Factors from Heparin Containing Matrices
; FILE REFERENCE: ETH 108
; CURRENT APPLICATION NUMBER: US/09/848,664
; CURRENT FILING DATE: 2001-05-03
; PRIOR APPLICATION NUMBER: 09/298,084
; PRIOR FILING DATE: 1999-04-22
; NUMBER OF SEQ ID NOS: 31
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 29
; LENGTH: 70
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-848-664-29

Query Match 100.0%; Score 385; DB 9; Length 70;
Best Local Similarity 100.0%; Pred. No. 2.9e-40;
Matches 70; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy         61 CAPLKPAKSA 70
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Db         61 CAPLKPAKSA 70
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RESULT 2
US-09-848-664-30
; Sequence 30, Application US/09848664

; Patent No. US20020146414A1
; GENERAL INFORMATION:
; APPLICANT: Sakiyama-Elbert, Shelly E.
; APPLICANT: Hubbell, Jeffrey A.
; TITLE OF INVENTION: Controlled Release of No. US20020146414A1-Heparin Binding Growth
; TITLE OF INVENTION: Factors from Heparin Containing Matrices
; FILE REFERENCE: ETH 108
; CURRENT APPLICATION NUMBER: US/09/848,664
; CURRENT FILING DATE: 2001-05-03
; PRIOR APPLICATION NUMBER: 09/298,084
; PRIOR FILING DATE: 1999-04-22
; NUMBER OF SEQ ID NOS: 31
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 30
; LENGTH: 70
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-848-664-30

Query Match 100.0%; Score 385; DB 9; Length 70;
Best Local Similarity 100.0%; Pred. No. 2.9e-40;
Matches 70; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy 61 CAPLKPAKSA 70
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Db 61 CAPLKPAKSA 70

RESULT 3
US-09-903-327A-8
; Sequence 8, Application US/09903327A
; Patent No. US20020164333A1
; GENERAL INFORMATION:
; APPLICANT: Nemerow, Glen R.
; APPLICANT: Li, Erguang
; TITLE OF INVENTION: BIFUNCTIONAL MOLECULES AND VECTORS COMPLEXED THEREWITH FOR TARGET
; TITLE OF INVENTION: GENE
; TITLE OF INVENTION: DELIVERY
; FILE REFERENCE: 22908-1228
; CURRENT APPLICATION NUMBER: US/09/903,327A
; CURRENT FILING DATE: 2001-07-10
; PRIOR APPLICATION NUMBER: 09/613,017
; PRIOR FILING DATE: 2000-07-10
; NUMBER OF SEQ ID NOS: 33
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 8
; LENGTH: 70
; TYPE: PRT
; ORGANISM: Human
; FEATURE:
; NAME/KEY: PEPTIDE
; LOCATION: (0)...(0)
; OTHER INFORMATION: Human Insulin-like Growth Factor 1 sequence
; OTHER INFORMATION: (IGF-1, mature peptide)
US-09-903-327A-8

Query Match 100.0%; Score 385; DB 9; Length 70;
Best Local Similarity 100.0%; Pred. No. 2.9e-40;
Matches 70; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy 61 CAPLKPAKSA 70
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Db 61 CAPLKPAKSA 70

RESULT 4
US-09-858-935B-3
; Sequence 3, Application US/09858935B
; Publication No. US20030069177A1
; GENERAL INFORMATION:
; APPLICANT: Dubaquie, Yves
; APPLICANT: Filvaroff, Ellen
; APPLICANT: Lowman, Henry B.
; TITLE OF INVENTION: METHOD FOR TREATING CARTILAGE DISORDERS
; FILE REFERENCE: P1794R1
; CURRENT APPLICATION NUMBER: US/09/858,935B
; CURRENT FILING DATE: 2002-07-02
; PRIOR APPLICATION NUMBER: US 60/248,985
; PRIOR FILING DATE: 2000-11-15
; PRIOR APPLICATION NUMBER: US 60/204,490
; PRIOR FILING DATE: 2000-05-16
; NUMBER OF SEQ ID NOS: 153
; SEQ ID NO 3
; LENGTH: 70
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-858-935B-3

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Best Local Similarity 100.0%; Pred. No. 2.9e-40;
Matches 70; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy 61 CAPLKPAKSA 70
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Db 61 CAPLKPAKSA 70

RESULT 5
US-10-444-649-1
; Sequence 1, Application US/10444649
; Publication No. US20040033951A1
; GENERAL INFORMATION:
; APPLICANT: Dubaquie, Yves
; APPLICANT: Lowman, Henry
; TITLE OF INVENTION: PROTEIN VARIANTS
; FILE REFERENCE: P1712R1
; CURRENT APPLICATION NUMBER: US/10/444,649
; CURRENT FILING DATE: 2003-05-22
; PRIOR APPLICATION NUMBER: US/09/724,479
; PRIOR FILING DATE: 2000-11-28
; PRIOR APPLICATION NUMBER: US/09/477,923
; PRIOR FILING DATE: 2000-01-05
; NUMBER OF SEQ ID NOS: 6
; SEQ ID NO 1
; LENGTH: 70
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-444-649-1

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Best Local Similarity 100.0%; Pred. No. 2.9e-40;
Matches 70; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy 61 CAPLKPAKSA 70
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Db 61 CAPLKPAKSA 70

RESULT 6
US-10-444-701-1

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; Sequence 1, Application US/10444701
; Publication No. US20040033952A1
; GENERAL INFORMATION:
;  APPLICANT: Dubaquie, Yves
;  APPLICANT:  Lowman, Henry
;  TITLE OF INVENTION: PROTEIN VARIANTS
;  FILE REFERENCE: P1712R1
;  CURRENT APPLICATION NUMBER: US/10/444,701
;  CURRENT FILING DATE:  2003-05-22
;  PRIOR APPLICATION NUMBER: US/09/723,866
;  PRIOR FILING DATE: 2000-11-28
;  PRIOR APPLICATION NUMBER: US/09/477,923
;  PRIOR FILING DATE: 2000-01-05
;  NUMBER OF SEQ ID NOS: 6
; SEQ ID NO 1
;   LENGTH: 70
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-444-701-1

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Qy         61 CAPLKPAKSA 70
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Db         61 CAPLKPAKSA 70


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US-10-028-410-1
; Sequence 1, Application US/10028410
; Publication No. US20020160955A1
; GENERAL INFORMATION:
;  APPLICANT: Dubaquie, Yves
;  APPLICANT:  Lowman, Henry
;  TITLE OF INVENTION: PROTEIN VARIANTS
;  FILE REFERENCE: P1712R1-1
;  CURRENT APPLICATION NUMBER: US/10/028,410
;  CURRENT FILING DATE:  2001-12-19
;  PRIOR APPLICATION NUMBER: US/09/477,924
;  PRIOR FILING DATE: 2000-01-05
;  NUMBER OF SEQ ID NOS: 6
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;   LENGTH: 70
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-028-410-1

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Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         61 CAPLKPAKSA 70


RESULT 8
US-10-066-009A-1
; Sequence 1, Application US/10066009A
; Publication No. US20020165155A1
; GENERAL INFORMATION:
;  APPLICANT: Schaffer, Michelle
;  APPLICANT:  Ultsch, Mark
;  APPLICANT:  Vajdos, Felix
;  TITLE OF INVENTION: CRYSTALLIZATION OF IGF-1
;  FILE REFERENCE: P1869R1
;  CURRENT APPLICATION NUMBER: US/10/066,009A
;  CURRENT FILING DATE:  2002-06-24
;  PRIOR APPLICATION NUMBER: US 60/287,072
;  PRIOR FILING DATE: 2001-04-27
;  PRIOR APPLICATION NUMBER: US 60/267,977
;  PRIOR FILING DATE: 2001-02-09
;  NUMBER OF SEQ ID NOS: 5
; SEQ ID NO 1
;   LENGTH: 70
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-066-009A-1

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  Best Local Similarity   100.0%;  Pred. No. 2.9e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

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Qy         61 CAPLKPAKSA 70
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Db         61 CAPLKPAKSA 70


RESULT 9
US-10-136-639-1
; Sequence 1, Application US/10136639
; Publication No. US20030072761A1
; GENERAL INFORMATION:
;  APPLICANT: LeBowitz, Jonathan
;  TITLE OF INVENTION: METHODS AND COMPOSITIONS FOR TARGETING PROTEINS ACROSS THE BLOOI
;  TITLE OF INVENTION:  BARRIER
;  FILE REFERENCE: SYM-008
;  CURRENT APPLICATION NUMBER: US/10/136,639
;  CURRENT FILING DATE:  2002-09-06
;  PRIOR APPLICATION NUMBER: US 60/329,650
;  PRIOR FILING DATE: 2001-10-16
;  NUMBER OF SEQ ID NOS: 4
;  SOFTWARE: PatentIn version 3.0
; SEQ ID NO 1
;   LENGTH: 70
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-136-639-1

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  Best Local Similarity   100.0%;  Pred. No. 2.9e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

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Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
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Db         61 CAPLKPAKSA 70


RESULT 10
US-10-136-841-7
; Sequence 7, Application US/10136841
; Publication No. US20030082176A1
; GENERAL INFORMATION:
;  APPLICANT: LeBowitz, Jonathan
;  APPLICANT:  Beverley, Stephen
;  TITLE OF INVENTION: SUBCELLULAR TARGETING OF THERAPEUTIC PROTEINS
;  FILE REFERENCE: SYM-007
;  CURRENT APPLICATION NUMBER: US/10/136,841
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;  CURRENT FILING DATE:  2002-08-22
;  PRIOR APPLICATION NUMBER: US 60/287,531
;  PRIOR FILING DATE: 2001-04-30
;  PRIOR APPLICATION NUMBER: US 60/304,609
;  PRIOR FILING DATE: 2001-07-10
;  PRIOR APPLICATION NUMBER: US 60/329,461
;  PRIOR FILING DATE: 2001-10-15
;  PRIOR APPLICATION NUMBER: US 60/351,276
;  PRIOR FILING DATE: 2002-01-23
;  NUMBER OF SEQ ID NOS: 22
;  SOFTWARE: PatentIn version 3.0
; SEQ ID NO 7
;   LENGTH: 70
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-136-841-7

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  Best Local Similarity   100.0%;  Pred. No. 2.9e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
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Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
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Db         61 CAPLKPAKSA 70


RESULT 11
US-10-444-326-1
; Sequence 1, Application US/10444326
; Publication No. US20030191065A1
; GENERAL INFORMATION:
;  APPLICANT: Dubaquie, Yves
;  APPLICANT:  Lowman, Henry
;  TITLE OF INVENTION: PROTEIN VARIANTS
;  FILE REFERENCE: P1712R1
;  CURRENT APPLICATION NUMBER: US/10/444,326
;  CURRENT FILING DATE:  2003-05-22
;  PRIOR APPLICATION NUMBER: US/09/723,866
;  PRIOR FILING DATE: 2000-11-28
;  PRIOR APPLICATION NUMBER: US/09/477,923
;  PRIOR FILING DATE: 2000-01-05
;  NUMBER OF SEQ ID NOS: 6
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;   LENGTH: 70
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-444-326-1

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Qy         61 CAPLKPAKSA 70
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Db         61 CAPLKPAKSA 70


RESULT 12
US-10-272-531A-7
; Sequence 7, Application US/10272531A
; Publication No. US20040005309A1
; GENERAL INFORMATION:
;  APPLICANT: LeBowitz, Jonathan H
;  APPLICANT:  Beverley, Stephen
;  APPLICANT:  Sly, William S.
;  TITLE OF INVENTION: TARGETED THERAPEUTIC PROTEINS
;  FILE REFERENCE: SYM-009
;  CURRENT APPLICATION NUMBER: US/10/272,531A
;  CURRENT FILING DATE:  2002-10-16
;  PRIOR APPLICATION NUMBER: US 60/384,452
;  PRIOR FILING DATE: 2002-05-29
;  PRIOR APPLICATION NUMBER: US 60/386,019
;  PRIOR FILING DATE: 2002-06-05
;  PRIOR APPLICATION NUMBER: US 60/408,816
;  PRIOR FILING DATE: 2002-09-06
;  NUMBER OF SEQ ID NOS: 22
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 7
;   LENGTH: 70
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-272-531A-7

  Query Match             100.0%;  Score 385;  DB 15;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 2.9e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         61 CAPLKPAKSA 70


RESULT 13
US-10-272-483A-7
; Sequence 7, Application US/10272483A
; Publication No. US20040006008A1
; GENERAL INFORMATION:
;  APPLICANT: LeBowitz, Jonathan H
;  APPLICANT:  Beverley, Stephen
;  TITLE OF INVENTION: TARGETED THERAPEUTIC PROTEINS
;  FILE REFERENCE: SYM-007CP
;  CURRENT APPLICATION NUMBER: US/10/272,483A
;  CURRENT FILING DATE:  2002-10-16
;  PRIOR APPLICATION NUMBER: US 60/287,531
;  PRIOR FILING DATE: 2001-04-30
;  PRIOR APPLICATION NUMBER: US 10/136,841
;  PRIOR FILING DATE: 2002-04-30
;  PRIOR APPLICATION NUMBER: US 60/384,452
;  PRIOR FILING DATE: 2002-05-29
;  PRIOR APPLICATION NUMBER: US 60/386,019
;  PRIOR FILING DATE: 2002-06-05
;  PRIOR APPLICATION NUMBER: US 60/408,816
;  PRIOR FILING DATE: 2002-09-06
;  PRIOR APPLICATION NUMBER: US 60/304,609
;  PRIOR FILING DATE: 2001-07-10
;  PRIOR APPLICATION NUMBER: US 60/329,461
;  PRIOR FILING DATE: 2001-10-15
;  PRIOR APPLICATION NUMBER: US 60/351,276
;  PRIOR FILING DATE: 2002-01-23
;  NUMBER OF SEQ ID NOS: 22
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 7
;   LENGTH: 70
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-272-483A-7

  Query Match             100.0%;  Score 385;  DB 15;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 2.9e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
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```
Qy          61 CAPLKPAKSA 70
               ||||||||||
Db          61 CAPLKPAKSA 70
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RESULT 14
US-10-444-262-1
; Sequence 1, Application US/10444262
; Publication No. US20040023883A1
; GENERAL INFORMATION:
; APPLICANT: Dubaquie, Yves
; APPLICANT: Lowman, Henry
; TITLE OF INVENTION: PROTEIN VARIANTS
; FILE REFERENCE: P1712R1
; CURRENT APPLICATION NUMBER: US/10/444,262
; CURRENT FILING DATE: 2003-05-22
; PRIOR APPLICATION NUMBER: US/09/724,478
; PRIOR FILING DATE: 2000-11-28
; PRIOR APPLICATION NUMBER: US/09/477,923
; PRIOR FILING DATE: 2000-01-05
; NUMBER OF SEQ ID NOS: 6
; SEQ ID NO 1
; LENGTH: 70
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-444-262-1

Query Match 100.0%; Score 385; DB 16; Length 70;
Best Local Similarity 100.0%; Pred. No. 2.9e-40;
Matches 70; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy           1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db           1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy          61 CAPLKPAKSA 70
               ||||||||||
Db          61 CAPLKPAKSA 70
```

RESULT 15
US-09-852-261-10
; Sequence 10, Application US/09852261
; Patent No. US20020083477A1
; GENERAL INFORMATION:
; APPLICANT: GOLDSPINK, GEOFFREY
; APPLICANT: TERENGHI, GIORGIO
; TITLE OF INVENTION: REPAIR OF NERVE DAMAGE
; FILE REFERENCE: 117-351
; CURRENT APPLICATION NUMBER: US/09/852,261
; CURRENT FILING DATE: 2001-05-10
; PRIOR APPLICATION NUMBER: GB 0011278.9
; PRIOR FILING DATE: 2000-05-10
; NUMBER OF SEQ ID NOS: 14
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 10
; LENGTH: 105
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-852-261-10

Query Match 100.0%; Score 385; DB 9; Length 105;
Best Local Similarity 100.0%; Pred. No. 4.6e-40;
Matches 70; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy           1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db           1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy          61 CAPLKPAKSA 70
               ||||||||||
Db          61 CAPLKPAKSA 70
```

RESULT 16
US-10-238-114-3
; Sequence 3, Application US/10238114
; Publication No. US20030100073A1
; GENERAL INFORMATION:
; APPLICANT: Merial
; APPLICANT: ANDREONI , Christine Michele
; TITLE OF INVENTION: IGF-1 AS FELINE VACCINE ADJUVANT, IN PARTICULAR AGAINST FELINE F
; FILE REFERENCE: 454313-3165.1
; CURRENT APPLICATION NUMBER: US/10/238,114
; CURRENT FILING DATE: 2002-09-10
; PRIOR APPLICATION NUMBER: FR 01 11736
; PRIOR FILING DATE: 2001-09-11
; PRIOR APPLICATION NUMBER: US 60/318,666
; PRIOR FILING DATE: 2001-09-12
; NUMBER OF SEQ ID NOS: 20
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 3
; LENGTH: 105
; TYPE: PRT
; ORGANISM: Felis catus
US-10-238-114-3

Query Match 100.0%; Score 385; DB 14; Length 105;
Best Local Similarity 100.0%; Pred. No. 4.6e-40;
Matches 70; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy           1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db           1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy          61 CAPLKPAKSA 70
               ||||||||||
Db          61 CAPLKPAKSA 70
```

RESULT 17
US-09-852-261-2
; Sequence 2, Application US/09852261
; Patent No. US20020083477A1
; GENERAL INFORMATION:
; APPLICANT: GOLDSPINK, GEOFFREY
; APPLICANT: TERENGHI, GIORGIO
; TITLE OF INVENTION: REPAIR OF NERVE DAMAGE
; FILE REFERENCE: 117-351
; CURRENT APPLICATION NUMBER: US/09/852,261
; CURRENT FILING DATE: 2001-05-10
; PRIOR APPLICATION NUMBER: GB 0011278.9
; PRIOR FILING DATE: 2000-05-10
; NUMBER OF SEQ ID NOS: 14
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 2
; LENGTH: 110
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-852-261-2

Query Match 100.0%; Score 385; DB 9; Length 110;
Best Local Similarity 100.0%; Pred. No. 4.8e-40;
Matches 70; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy           1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db           1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy          61 CAPLKPAKSA 70
               ||||||||||
Db          61 CAPLKPAKSA 70
```

RESULT 18

```
US-10-179-046-14
; Sequence 14, Application US/10179046
; Publication No. US20030013154A1
;  GENERAL INFORMATION:
;       APPLICANT: Crawford, Kenneth
;                  Zaror, Isabel
;                  Innis, Michael
;       TITLE OF INVENTION: Pichia Secretory Leader for Protein
;                           Expression
;       NUMBER OF SEQUENCES: 40
;       CORRESPONDENCE ADDRESS:
;            ADDRESSEE: Chiron Corporation
;            STREET: 4560 Horton Street
;            CITY: Emeryville
;            STATE: California
;            COUNTRY: United States
;            ZIP: 94608
;       COMPUTER READABLE FORM:
;            MEDIUM TYPE: Floppy disk
;            COMPUTER: IBM PC compatible
;            OPERATING SYSTEM: PC-DOS/MS-DOS
;            SOFTWARE: PatentIn Release #1.0, Version #1.30
;       CURRENT APPLICATION DATA:
;            APPLICATION NUMBER: US/10/179,046
;            FILING DATE: 25-Jun-2002
;            CLASSIFICATION: <Unknown>
;       PRIOR APPLICATION DATA:
;            APPLICATION NUMBER: US/09/029,267
;            FILING DATE: <Unknown>
;       ATTORNEY/AGENT INFORMATION:
;            NAME: Chung, Ling-Fong
;            REGISTRATION NUMBER: 36,482
;            REFERENCE/DOCKET NUMBER: 1165.100
;       TELECOMMUNICATION INFORMATION:
;            TELEPHONE: (510) 601-2704
;            TELEFAX: (510) 655-3542
;  INFORMATION FOR SEQ ID NO: 14:
;       SEQUENCE CHARACTERISTICS:
;            LENGTH: 118 amino acids
;            TYPE: amino acid
;            STRANDEDNESS: single
;            TOPOLOGY: linear
;       MOLECULE TYPE: protein
;       SEQUENCE DESCRIPTION: SEQ ID NO: 14:
US-10-179-046-14

  Query Match             100.0%;  Score 385;  DB 14;  Length 118;
  Best Local Similarity   100.0%;  Pred. No. 5.2e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db        109 CAPLKPAKSA 118


RESULT 19
US-10-251-661-8
; Sequence 8, Application US/10251661
; Publication No. US20030166555A1
; GENERAL INFORMATION:
;  APPLICANT: Alberini, Cristina M.
;  APPLICANT:  Bear, Mark F.
;  TITLE OF INVENTION: Methods and Compositions for Regulating
;  TITLE OF INVENTION:  Memory Consolidation
;  FILE REFERENCE: 3499.1001-003
;  CURRENT APPLICATION NUMBER: US/10/251,661
;  CURRENT FILING DATE:  2002-09-20
;  PRIOR APPLICATION NUMBER: 60/193,614
;  PRIOR FILING DATE: 2000-03-31
;  PRIOR APPLICATION NUMBER: PCT/US01/10661
;  PRIOR FILING DATE: 2001-04-02
;  NUMBER OF SEQ ID NOS: 12
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 8
;   LENGTH: 137
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-251-661-8

  Query Match             100.0%;  Score 385;  DB 14;  Length 137;
  Best Local Similarity   100.0%;  Pred. No. 6.2e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         33 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 92

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         93 CAPLKPAKSA 102


RESULT 20
US-09-919-497-74
; Sequence 74, Application US/09919497
; Patent No. US20020106662A1
; GENERAL INFORMATION:
;  APPLICANT: Mutter, George L.
;  TITLE OF INVENTION: PROGNOSTIC CLASSIFICATION OF ENDOMETRIAL CANCER
;  FILE REFERENCE: B0801/7225
;  CURRENT APPLICATION NUMBER: US/09/919,497
;  CURRENT FILING DATE:  2001-07-31
;  PRIOR APPLICATION NUMBER: US 60/221,735
;  PRIOR FILING DATE: 2000-07-31
;  NUMBER OF SEQ ID NOS: 100
;  SOFTWARE: PatentIn version 3.0
; SEQ ID NO 74
;   LENGTH: 153
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-919-497-74

  Query Match             100.0%;  Score 385;  DB 9;  Length 153;
  Best Local Similarity   100.0%;  Pred. No. 7e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db        109 CAPLKPAKSA 118


RESULT 21
US-10-136-639-3
; Sequence 3, Application US/10136639
; Publication No. US20030072761A1
; GENERAL INFORMATION:
;  APPLICANT: LeBowitz, Jonathan
;  TITLE OF INVENTION: METHODS AND COMPOSITIONS FOR TARGETING PROTEINS ACROSS THE BLOOD
;  TITLE OF INVENTION:  BARRIER
;  FILE REFERENCE: SYM-008
;  CURRENT APPLICATION NUMBER: US/10/136,639
;  CURRENT FILING DATE:  2002-09-06
;  PRIOR APPLICATION NUMBER: US 60/329,650
;  PRIOR FILING DATE: 2001-10-16
;  NUMBER OF SEQ ID NOS: 4
;  SOFTWARE: PatentIn version 3.0
; SEQ ID NO 3
;   LENGTH: 153
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;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-136-639-3

  Query Match           100.0%;  Score 385;  DB 14;  Length 153;
  Best Local Similarity  100.0%;  Pred. No. 7e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db        109 CAPLKPAKSA 118


RESULT 22
US-10-238-114-2
; Sequence 2, Application US/10238114
; Publication No. US20030100073A1
; GENERAL INFORMATION:
;  APPLICANT: Merial
;  APPLICANT:  ANDREONI , Christine Michele
;  TITLE OF INVENTION: IGF-1 AS FELINE VACCINE ADJUVANT, IN PARTICULAR AGAINST FELINE RE
;  FILE REFERENCE: 454313-3165.1
;  CURRENT APPLICATION NUMBER: US/10/238,114
;  CURRENT FILING DATE:  2002-09-10
;  PRIOR APPLICATION NUMBER: FR 01 11736
;  PRIOR FILING DATE: 2001-09-11
;  PRIOR APPLICATION NUMBER: US 60/318,666
;  PRIOR FILING DATE: 2001-09-12
;  NUMBER OF SEQ ID NOS: 20
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 2
;   LENGTH: 153
;   TYPE: PRT
;   ORGANISM: Felis catus
US-10-238-114-2

  Query Match           100.0%;  Score 385;  DB 14;  Length 153;
  Best Local Similarity  100.0%;  Pred. No. 7e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db        109 CAPLKPAKSA 118


RESULT 23
US-10-207-655-55
; Sequence 55, Application US/10207655
; Publication No. US20030118592A1
; GENERAL INFORMATION:
;  APPLICANT: Ledbetter, Jeffrey A.
;  APPLICANT:  Hayden-Ledbetter, Martha S.
;  TITLE OF INVENTION: BINDING DOMAIN-IMMUNOGLOBULIN FUSION PROTEINS
;  FILE REFERENCE: 390069.401C1
;  CURRENT APPLICATION NUMBER: US/10/207,655
;  CURRENT FILING DATE:  2002-07-25
;  NUMBER OF SEQ ID NOS: 426
;  SOFTWARE: PatentIn version 3.0
; SEQ ID NO 55
;   LENGTH: 153
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-207-655-55

  Query Match           100.0%;  Score 385;  DB 14;  Length 153;
  Best Local Similarity  100.0%;  Pred. No. 7e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db        109 CAPLKPAKSA 118


RESULT 24
US-09-921-398-39
; Sequence 39, Application US/09921398
; Patent No. US20020055169A1
;   GENERAL INFORMATION:
;        APPLICANT: Tekamp-Olson, Patricia
;        TITLE OF INVENTION: METHOD FOR EXPRESSION OF HETEROLOGOUS
;                            PROTEINS IN YEAST
;        NUMBER OF SEQUENCES: 41
;        CORRESPONDENCE ADDRESS:
;             ADDRESSEE: Bell Seltzer IP Group of Alston & Bird, LLP
;             STREET: 3605 Glenwood Ave. Suite 310
;             CITY: Raleigh
;             STATE: NC
;             COUNTRY: US
;             ZIP: 27622
;        COMPUTER READABLE FORM:
;             MEDIUM TYPE: Floppy disk
;             COMPUTER: IBM PC compatible
;             OPERATING SYSTEM: PC-DOS/MS-DOS
;             SOFTWARE: PatentIn Release #1.0, Version #1.30
;        CURRENT APPLICATION DATA:
;             APPLICATION NUMBER: US/09/921,398
;             FILING DATE: 02-Aug-2001
;             CLASSIFICATION: <Unknown>
;        ATTORNEY/AGENT INFORMATION:
;             NAME: Spruill, W. Murray
;             REGISTRATION NUMBER: 32,943
;             REFERENCE/DOCKET NUMBER: 5784-4
;        TELECOMMUNICATION INFORMATION:
;             TELEPHONE: 919 420 2202
;             TELEFAX: 919 881 3175
;   INFORMATION FOR SEQ ID NO: 39:
;        SEQUENCE CHARACTERISTICS:
;             LENGTH: 155 amino acids
;             TYPE: amino acid
;             TOPOLOGY: linear
;        MOLECULE TYPE: protein
;        SEQUENCE DESCRIPTION: SEQ ID NO: 39:
US-09-921-398-39

  Query Match           100.0%;  Score 385;  DB 9;  Length 155;
  Best Local Similarity  100.0%;  Pred. No. 7.1e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         86 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 145

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db        146 CAPLKPAKSA 155


RESULT 25
US-10-280-826-39
; Sequence 39, Application US/10280826
; Publication No. US20030077831A1
;   GENERAL INFORMATION:
;        APPLICANT: Tekamp-Olson, Patricia
;        TITLE OF INVENTION: METHOD FOR EXPRESSION OF HETEROLOGOUS
```

```
;                          PROTEINS IN YEAST
;       NUMBER OF SEQUENCES: 41
;       CORRESPONDENCE ADDRESS:
;            ADDRESSEE: Bell Seltzer IP Group of Alston & Bird, LLP
;            STREET: 3605 Glenwood Ave. Suite 310
;            CITY: Raleigh
;            STATE: NC
;            COUNTRY: US
;            ZIP: 27622
;       COMPUTER READABLE FORM:
;            MEDIUM TYPE: Floppy disk
;            COMPUTER: IBM PC compatible
;            OPERATING SYSTEM: PC-DOS/MS-DOS
;            SOFTWARE: PatentIn Release #1.0, Version #1.30
;       CURRENT APPLICATION DATA:
;            APPLICATION NUMBER: US/10/280,826
;            FILING DATE: 25-Oct-2002
;            CLASSIFICATION: <Unknown>
;       PRIOR APPLICATION DATA:
;            APPLICATION NUMBER: US/08/989,251
;            FILING DATE: <Unknown>
;       ATTORNEY/AGENT INFORMATION:
;            NAME: Spruill, W. Murray
;            REGISTRATION NUMBER: 32,943
;            REFERENCE/DOCKET NUMBER: 5784-4
;       TELECOMMUNICATION INFORMATION:
;            TELEPHONE: 919 420 2202
;            TELEFAX: 919 881 3175
;   INFORMATION FOR SEQ ID NO: 39:
;       SEQUENCE CHARACTERISTICS:
;            LENGTH: 155 amino acids
;            TYPE: amino acid
;            TOPOLOGY: linear
;       MOLECULE TYPE: protein
;       SEQUENCE DESCRIPTION: SEQ ID NO: 39:
US-10-280-826-39

  Query Match            100.0%;  Score 385;  DB 14;  Length 155;
  Best Local Similarity  100.0%;  Pred. No. 7.1e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         86 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 145

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db        146 CAPLKPAKSA 155


RESULT 26
US-09-921-398-41
; Sequence 41, Application US/09921398
; Patent No. US20020055169A1
;   GENERAL INFORMATION:
;       APPLICANT: Tekamp-Olson, Patricia
;       TITLE OF INVENTION: METHOD FOR EXPRESSION OF HETEROLOGOUS
;                           PROTEINS IN YEAST
;       NUMBER OF SEQUENCES: 41
;       CORRESPONDENCE ADDRESS:
;            ADDRESSEE: Bell Seltzer IP Group of Alston & Bird, LLP
;            STREET: 3605 Glenwood Ave. Suite 310
;            CITY: Raleigh
;            STATE: NC
;            COUNTRY: US
;            ZIP: 27622
;       COMPUTER READABLE FORM:
;            MEDIUM TYPE: Floppy disk
;            COMPUTER: IBM PC compatible
;            OPERATING SYSTEM: PC-DOS/MS-DOS
;            SOFTWARE: PatentIn Release #1.0, Version #1.30
;       CURRENT APPLICATION DATA:
;            APPLICATION NUMBER: US/09/921,398
;            FILING DATE: 02-Aug-2001
;            CLASSIFICATION: <Unknown>
;       ATTORNEY/AGENT INFORMATION:
;            NAME: Spruill, W. Murray
;            REGISTRATION NUMBER: 32,943
;            REFERENCE/DOCKET NUMBER: 5784-4
;       TELECOMMUNICATION INFORMATION:
;            TELEPHONE: 919 420 2202
;            TELEFAX: 919 881 3175
;   INFORMATION FOR SEQ ID NO: 41:
;       SEQUENCE CHARACTERISTICS:
;            LENGTH: 191 amino acids
;            TYPE: amino acid
;            TOPOLOGY: linear
;       MOLECULE TYPE: protein
;       SEQUENCE DESCRIPTION: SEQ ID NO: 41:
US-09-921-398-41

  Query Match            100.0%;  Score 385;  DB 9;  Length 191;
  Best Local Similarity  100.0%;  Pred. No. 9e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         86 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 145

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db        146 CAPLKPAKSA 155


RESULT 27
US-10-280-826-41
; Sequence 41, Application US/10280826
; Publication No. US20030077831A1
;   GENERAL INFORMATION:
;       APPLICANT: Tekamp-Olson, Patricia
;       TITLE OF INVENTION: METHOD FOR EXPRESSION OF HETEROLOGOUS
;                           PROTEINS IN YEAST
;       NUMBER OF SEQUENCES: 41
;       CORRESPONDENCE ADDRESS:
;            ADDRESSEE: Bell Seltzer IP Group of Alston & Bird, LLP
;            STREET: 3605 Glenwood Ave. Suite 310
;            CITY: Raleigh
;            STATE: NC
;            COUNTRY: US
;            ZIP: 27622
;       COMPUTER READABLE FORM:
;            MEDIUM TYPE: Floppy disk
;            COMPUTER: IBM PC compatible
;            OPERATING SYSTEM: PC-DOS/MS-DOS
;            SOFTWARE: PatentIn Release #1.0, Version #1.30
;       CURRENT APPLICATION DATA:
;            APPLICATION NUMBER: US/10/280,826
;            FILING DATE: 25-Oct-2002
;            CLASSIFICATION: <Unknown>
;       PRIOR APPLICATION DATA:
;            APPLICATION NUMBER: US/08/989,251
;            FILING DATE: <Unknown>
;       ATTORNEY/AGENT INFORMATION:
;            NAME: Spruill, W. Murray
;            REGISTRATION NUMBER: 32,943
;            REFERENCE/DOCKET NUMBER: 5784-4
;       TELECOMMUNICATION INFORMATION:
;            TELEPHONE: 919 420 2202
;            TELEFAX: 919 881 3175
;   INFORMATION FOR SEQ ID NO: 41:
;       SEQUENCE CHARACTERISTICS:
;            LENGTH: 191 amino acids
;            TYPE: amino acid
;            TOPOLOGY: linear
;       MOLECULE TYPE: protein
;       SEQUENCE DESCRIPTION: SEQ ID NO: 41:
```

US-10-280-826-41

Query Match 100.0%; Score 385; DB 14; Length 191;
Best Local Similarity 100.0%; Pred. No. 9e-40;
Matches 70; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db 86 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 145

Qy 61 CAPLKPAKSA 70
||||||||||
Db 146 CAPLKPAKSA 155

RESULT 28
US-10-443-466A-20
; Sequence 20, Application US/10443466A
; Publication No. US20040018191A1
; GENERAL INFORMATION:
; APPLICANT: Wang, Yan
; APPLICANT: Pachter, Jonathan A
; APPLICANT: Hailey, Judith
; APPLICANT: Greenberg, Robert
; APPLICANT: Leonard, Presta
; APPLICANT: Brams, Peter
; APPLICANT: Feingersh, Diane
; APPLICANT: Williams, Denise
; APPLICANT: Srinivasan, Mohan
; TITLE OF INVENTION: NEUTRALIZING HUMAN ANTI-IGFR ANTIBODY
; FILE REFERENCE: OC01533-K-US
; CURRENT APPLICATION NUMBER: US/10/443,466A
; CURRENT FILING DATE: 2003-05-22
; PRIOR APPLICATION NUMBER: 60/383,459
; PRIOR FILING DATE: 2002-05-24
; PRIOR APPLICATION NUMBER: 60/393,214
; PRIOR FILING DATE: 2002-07-02
; PRIOR APPLICATION NUMBER: 60/436,254
; PRIOR FILING DATE: 2002-12-23
; NUMBER OF SEQ ID NOS: 120
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 20
; LENGTH: 195
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-443-466A-20

Query Match 100.0%; Score 385; DB 15; Length 195;
Best Local Similarity 100.0%; Pred. No. 9.2e-40;
Matches 70; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db 49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy 61 CAPLKPAKSA 70
||||||||||
Db 109 CAPLKPAKSA 118

RESULT 29
US-09-903-327A-12
; Sequence 12, Application US/09903327A
; Patent No. US20020164333A1
; GENERAL INFORMATION:
; APPLICANT: Nemerow, Glen R.
; APPLICANT: Li, Erguang
; TITLE OF INVENTION: BIFUNCTIONAL MOLECULES AND VECTORS COMPLEXED THEREWITH FOR TARGET
; TITLE OF INVENTION: GENE
; TITLE OF INVENTION: DELIVERY
; FILE REFERENCE: 22908-1228
; CURRENT APPLICATION NUMBER: US/09/903,327A
; CURRENT FILING DATE: 2001-07-10
; PRIOR APPLICATION NUMBER: 09/613,017
; PRIOR FILING DATE: 2000-07-10
; NUMBER OF SEQ ID NOS: 33
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 12
; LENGTH: 510
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Fusion protein with N-terminal portion of DAV-1 heavy chain
; OTHER INFORMATION: and IGF-1 mature peptide
US-09-903-327A-12

Query Match 100.0%; Score 385; DB 9; Length 510;
Best Local Similarity 100.0%; Pred. No. 2.7e-39;
Matches 70; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db 441 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 500

Qy 61 CAPLKPAKSA 70
||||||||||
Db 501 CAPLKPAKSA 510

RESULT 30
US-10-241-596-14
; Sequence 14, Application US/10241596
; Publication No. US20030166238A1
; GENERAL INFORMATION:
; APPLICANT: Microbiological Research Authority
; APPLICANT: The Speywood Laboratory Limited
; TITLE OF INVENTION: Recombinant Toxin Fragments
; FILE REFERENCE: 1581.0130003
; CURRENT APPLICATION NUMBER: US/10/241,596
; CURRENT FILING DATE: 2002-09-12
; PRIOR APPLICATION NUMBER: US 09/255,829
; PRIOR FILING DATE: 1999-02-23
; PRIOR APPLICATION NUMBER: US 09/242,689
; PRIOR FILING DATE: 1999-02-23
; PRIOR APPLICATION NUMBER: PCT/GB97/02273
; PRIOR FILING DATE: 1997-08-22
; PRIOR APPLICATION NUMBER: US 08/782,893
; PRIOR FILING DATE: 1996-12-27
; PRIOR APPLICATION NUMBER: GB 9625996.5
; PRIOR FILING DATE: 1996-12-13
; PRIOR APPLICATION NUMBER: GB 9617671.4
; PRIOR FILING DATE: 1996-08-23
; NUMBER OF SEQ ID NOS: 175
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 14
; LENGTH: 953
; TYPE: PRT
; ORGANISM: Clostridium botulinum
US-10-241-596-14

Query Match 100.0%; Score 385; DB 14; Length 953;
Best Local Similarity 100.0%; Pred. No. 5.4e-39;
Matches 70; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db 882 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 941

Qy 61 CAPLKPAKSA 70
||||||||||
Db 942 CAPLKPAKSA 951

RESULT 31
US-09-852-261-14
; Sequence 14, Application US/09852261

```
; Patent No. US20020083477A1
; GENERAL INFORMATION:
;  APPLICANT: GOLDSPINK, GEOFFREY
;  APPLICANT:  TERENGHI, GIORGIO
;  TITLE OF INVENTION: REPAIR OF NERVE DAMAGE
;  FILE REFERENCE: 117-351
;  CURRENT APPLICATION NUMBER: US/09/852,261
;  CURRENT FILING DATE:  2001-05-10
;  PRIOR APPLICATION NUMBER: GB 0011278.9
;  PRIOR FILING DATE: 2000-05-10
;  NUMBER OF SEQ ID NOS: 14
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 14
;   LENGTH: 105
;   TYPE: PRT
;   ORGANISM: Oryctolagus cuniculus
US-09-852-261-14

  Query Match             99.2%;  Score 382;  DB 9;  Length 105;
  Best Local Similarity   98.6%;  Pred. No. 1.1e-39;
  Matches   69;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              |||||||:|
Db         61 CAPLKPAKAA 70


RESULT 32
US-09-852-261-6
; Sequence 6, Application US/09852261
; Patent No. US20020083477A1
; GENERAL INFORMATION:
;  APPLICANT: GOLDSPINK, GEOFFREY
;  APPLICANT:  TERENGHI, GIORGIO
;  TITLE OF INVENTION: REPAIR OF NERVE DAMAGE
;  FILE REFERENCE: 117-351
;  CURRENT APPLICATION NUMBER: US/09/852,261
;  CURRENT FILING DATE:  2001-05-10
;  PRIOR APPLICATION NUMBER: GB 0011278.9
;  PRIOR FILING DATE: 2000-05-10
;  NUMBER OF SEQ ID NOS: 14
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 6
;   LENGTH: 111
;   TYPE: PRT
;   ORGANISM: Oryctolagus cuniculus
US-09-852-261-6

  Query Match             99.2%;  Score 382;  DB 9;  Length 111;
  Best Local Similarity   98.6%;  Pred. No. 1.2e-39;
  Matches   69;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              |||||||:|
Db         61 CAPLKPAKAA 70


RESULT 33
US-10-323-046-42
; Sequence 42, Application US/10323046
; Publication No. US20030187232A1
; GENERAL INFORMATION:
;  APPLICANT: Hubbell, Jeffrey A
;  APPLICANT:  Schense, Jason C
;  APPLICANT:  Sakiyama-Elbert, Shelly E
;  TITLE OF INVENTION: Growth Factor Modified Protein Matrices for Tissue
;  TITLE OF INVENTION:  Engineering
;  FILE REFERENCE: ETH 107 CIP (2)
;  CURRENT APPLICATION NUMBER: US/10/323,046
;  CURRENT FILING DATE:  2002-12-17
;  PRIOR APPLICATION NUMBER: 09/141,153
;  PRIOR FILING DATE: 1998-08-27
;  NUMBER OF SEQ ID NOS: 43
;  SOFTWARE: PatentIn Ver. 3.1
; SEQ ID NO 42
;   LENGTH: 91
;   TYPE: PRT
;   ORGANISM: Artificial sequence
;   FEATURE:
;   OTHER INFORMATION: Modified IGF 1 from Homo sapiens
US-10-323-046-42

  Query Match             98.2%;  Score 378;  DB 14;  Length 91;
  Best Local Similarity   98.6%;  Pred. No. 2.9e-39;
  Matches   69;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||| ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         22 GPEYLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 81

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         82 CAPLKPAKSA 91


RESULT 34
US-10-161-088-2
; Sequence 2, Application US/10161088
; Publication No. US20030077761A1
; GENERAL INFORMATION:
;  APPLICANT: Parrow, Vendela
;  APPLICANT:  Rosengren, Linda
;  TITLE OF INVENTION: NEW METHODS
;  FILE REFERENCE: 13425-111001
;  CURRENT APPLICATION NUMBER: US/10/161,088
;  CURRENT FILING DATE:  2002-05-31
;  PRIOR APPLICATION NUMBER: SE 0101934-8
;  PRIOR FILING DATE: 2001-06-01
;  NUMBER OF SEQ ID NOS: 3
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 2
;   LENGTH: 133
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-161-088-2

  Query Match             94.8%;  Score 365;  DB 14;  Length 133;
  Best Local Similarity   94.3%;  Pred. No. 1.8e-37;
  Matches   66;  Conservative    1;  Mismatches    3;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||| |||||||||||||| |||||||||||||||||||||||||||
Db         23 GPETLCGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 82

Qy         61 CAPLKPAKSA 70
              |||||| |:|
Db         83 CAPLKPTKAA 92


RESULT 35
US-09-852-261-12
; Sequence 12, Application US/09852261
; Patent No. US20020083477A1
; GENERAL INFORMATION:
;  APPLICANT: GOLDSPINK, GEOFFREY
;  APPLICANT:  TERENGHI, GIORGIO
;  TITLE OF INVENTION: REPAIR OF NERVE DAMAGE
;  FILE REFERENCE: 117-351
```

```
;  CURRENT APPLICATION NUMBER: US/09/852,261
;  CURRENT FILING DATE:  2001-05-10
;  PRIOR APPLICATION NUMBER: GB 0011278.9
;  PRIOR FILING DATE: 2000-05-10
;  NUMBER OF SEQ ID NOS: 14
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 12
;   LENGTH: 105
;   TYPE: PRT
;   ORGANISM: Rattus sp.
US-09-852-261-12

  Query Match             88.6%;  Score 341;  DB 9;  Length 105;
  Best Local Similarity   90.0%;  Pred. No. 1.4e-34;
  Matches   63;  Conservative    0;  Mismatches    7;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||||| ||||||||| |||| ||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              |   || |||
Db         61 CVRCKPTKSA 70


RESULT 36
US-09-852-261-4
; Sequence 4, Application US/09852261
; Patent No. US20020083477A1
; GENERAL INFORMATION:
;  APPLICANT: GOLDSPINK, GEOFFREY
;  APPLICANT:  TERENGHI, GIORGIO
;  TITLE OF INVENTION: REPAIR OF NERVE DAMAGE
;  FILE REFERENCE: 117-351
;  CURRENT APPLICATION NUMBER: US/09/852,261
;  CURRENT FILING DATE:  2001-05-10
;  PRIOR APPLICATION NUMBER: GB 0011278.9
;  PRIOR FILING DATE: 2000-05-10
;  NUMBER OF SEQ ID NOS: 14
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 4
;   LENGTH: 111
;   TYPE: PRT
;   ORGANISM: Rattus sp.
US-09-852-261-4

  Query Match             88.6%;  Score 341;  DB 9;  Length 111;
  Best Local Similarity   90.0%;  Pred. No. 1.4e-34;
  Matches   63;  Conservative    0;  Mismatches    7;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||||| ||||||||| |||| ||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              |   || |||
Db         61 CVRCKPTKSA 70


RESULT 37
US-10-339-740-218
; Sequence 218, Application US/10339740
; Publication No. US20030187246A1
; GENERAL INFORMATION:
;  APPLICANT: Doberstein, Stephen
;  APPLICANT:  Reddy, Bindu
;  APPLICANT:  Platt, Darren
;  APPLICANT:  Ferguson, Kimberly
;  TITLE OF INVENTION: NUCLEIC ACIDS AND PROTEINS OF C. ELEGANS INSULIN-LIKE GENES AND U
;  TITLE OF INVENTION:  THEREOF
;  FILE REFERENCE: 7326-069-999
;  CURRENT APPLICATION NUMBER: US/10/339,740
;  CURRENT FILING DATE:  2003-01-09
;  PRIOR APPLICATION NUMBER: US/09/084,303A
;  PRIOR FILING DATE: 1998-05-26
;  NUMBER OF SEQ ID NOS: 298
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 218
;   LENGTH: 68
;   TYPE: PRT
;   ORGANISM: Homo sapiens
;   FEATURE:
;   NAME/KEY: misc_feature
;   LOCATION: (30)..(37)
;   OTHER INFORMATION: Xaa = Any amino Acid
US-10-339-740-218

  Query Match             82.3%;  Score 317;  DB 14;  Length 68;
  Best Local Similarity   85.7%;  Pred. No. 8.1e-32;
  Matches   60;  Conservative    0;  Mismatches    8;  Indels    2;  Gaps    1;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||||||||||||||||          ||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPT--XXXXXXXXQTGIVDECCFRSCDLRRLEMY 58

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         59 CAPLKPAKSA 68


RESULT 38
US-10-066-009A-5
; Sequence 5, Application US/10066009A
; Publication No. US20020165155A1
; GENERAL INFORMATION:
;  APPLICANT: Schaffer, Michelle
;  APPLICANT:  Ultsch, Mark
;  APPLICANT:  Vajdos, Felix
;  TITLE OF INVENTION: CRYSTALLIZATION OF IGF-1
;  FILE REFERENCE: P1869R1
;  CURRENT APPLICATION NUMBER: US/10/066,009A
;  CURRENT FILING DATE:  2002-06-24
;  PRIOR APPLICATION NUMBER: US 60/287,072
;  PRIOR FILING DATE: 2001-04-27
;  PRIOR APPLICATION NUMBER: US 60/267,977
;  PRIOR FILING DATE: 2001-02-09
;  NUMBER OF SEQ ID NOS: 5
; SEQ ID NO 5
;   LENGTH: 56
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Residues observed in IGF-1 structure.
US-10-066-009A-5

  Query Match             77.9%;  Score 300;  DB 13;  Length 56;
  Best Local Similarity   90.3%;  Pred. No. 8.5e-30;
  Matches   56;  Conservative    0;  Mismatches    0;  Indels    6;  Gaps    1;

Qy          3 ETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMYCA 62
              |||||||||||||||||||||||||||||||      ||||||||||||||||||||||
Db          1 ETLCGAELVDALQFVCGDRGFYFNKPTGYGSS------TGIVDECCFRSCDLRRLEMYCA 54

Qy         63 PL 64
              ||
Db         55 PL 56


RESULT 39
US-09-205-658-138
; Sequence 138, Application US/09205658
; Patent No. US20010029617A1
; GENERAL INFORMATION:
;  APPLICANT: Ruvkun, Gary
;  APPLICANT: Ogg, Scott
;  TITLE OF INVENTION: THERAPEUTIC AND DIAGNOSTIC TOOLS FOR
```

```
;  TITLE OF INVENTION: IMPAIRED GLUCOSE TOLERANCE CONDITIONS
;  FILE REFERENCE: 00786/351004
;  CURRENT APPLICATION NUMBER: US/09/205,658
;  CURRENT FILING DATE: 1998-12-03
;  EARLIER APPLICATION NUMBER: 08/857,076
;  EARLIER FILING DATE: 1997-05-15
;  EARLIER APPLICATION NUMBER: 08/888,534
;  EARLIER FILING DATE: 1997-07-07
;  EARLIER APPLICATION NUMBER: US98/10080
;  EARLIER FILING DATE: 1998-05-15
;  NUMBER OF SEQ ID NOS: 328
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 138
;   LENGTH: 46
;   TYPE: PRT
;   ORGANISM: Bos taurus
;   FEATURE:
;   NAME/KEY: VARIANT
;   LOCATION: (1)...(46)
;   OTHER INFORMATION: Xaa = Any Amino Acid
US-09-205-658-138

  Query Match             58.1%;  Score 223.5;  DB 9;  Length 46;
  Best Local Similarity   75.4%;  Pred. No. 2.2e-20;
  Matches   43;  Conservative    0;  Mismatches    3;  Indels   11;  Gaps    1;

Qy          5 LCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMYC 61
              |||||||||||||||||||               |||||||||||||||||||||||
Db          1 LCGAELVDALQFVCGDRGF-----------XXXAPQTGIVDECCFRSCDLRRLEMYC 46


RESULT 40
US-09-205-658-139
; Sequence 139, Application US/09205658
; Patent No. US20010029617A1
; GENERAL INFORMATION:
;  APPLICANT: Ruvkun, Gary
;  APPLICANT: Ogg, Scott
;  TITLE OF INVENTION: THERAPEUTIC AND DIAGNOSTIC TOOLS FOR
;  TITLE OF INVENTION: IMPAIRED GLUCOSE TOLERANCE CONDITIONS
;  FILE REFERENCE: 00786/351004
;  CURRENT APPLICATION NUMBER: US/09/205,658
;  CURRENT FILING DATE: 1998-12-03
;  EARLIER APPLICATION NUMBER: 08/857,076
;  EARLIER FILING DATE: 1997-05-15
;  EARLIER APPLICATION NUMBER: 08/888,534
;  EARLIER FILING DATE: 1997-07-07
;  EARLIER APPLICATION NUMBER: US98/10080
;  EARLIER FILING DATE: 1998-05-15
;  NUMBER OF SEQ ID NOS: 328
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 139
;   LENGTH: 46
;   TYPE: PRT
;   ORGANISM: Canis
;   FEATURE:
;   NAME/KEY: VARIANT
;   LOCATION: (1)...(46)
;   OTHER INFORMATION: Xaa = Any Amino Acid
US-09-205-658-139

  Query Match             58.1%;  Score 223.5;  DB 9;  Length 46;
  Best Local Similarity   75.4%;  Pred. No. 2.2e-20;
  Matches   43;  Conservative    0;  Mismatches    3;  Indels   11;  Gaps    1;

Qy          5 LCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMYC 61
              |||||||||||||||||||               |||||||||||||||||||||||
Db          1 LCGAELVDALQFVCGDRGF-----------XXXAPQTGIVDECCFRSCDLRRLEMYC 46


Search completed: March 18, 2004, 06:21:22
Job time : 37.7883 secs
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GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: February 25, 2004, 06:19:08 ; Search time 37.8102 Seconds
(without alignments)
584.135 Million cell updates/sec

Title: US-10-066-009A-1
Perfect score: 385
Sequence: 1 GPETLCGAELVDALQFVCGD.....SCDLRRLEMYCAPLKPAKSA 70

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 1017041 seqs, 315518202 residues

Total number of hits satisfying chosen parameters: 1017041

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : SPTREMBL_25:*
1: sp_archea:*
2: sp_bacteria:*
3: sp_fungi:*
4: sp_human:*
5: sp_invertebrate:*
6: sp_mammal:*
7: sp_mhc:*
8: sp_organelle:*
9: sp_phage:*
10: sp_plant:*
11: sp_rodent:*
12: sp_virus:*
13: sp_vertebrate:*
14: sp_unclassified:*
15: sp_rvirus:*
16: sp_bacteriap:*
17: sp_archeap:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	385	100.0	130	4	Q9NP10	Q9np10 homo sapien
2	385	100.0	133	6	Q9N1C1	Q9n1c1 bos taurus
3	385	100.0	137	4	Q14620	Q14620 homo sapien
4	385	100.0	139	4	Q13429	Q13429 homo sapien
5	385	100.0	139	6	P79167	P79167 equus cabal
6	368	95.6	127	11	P97899	P97899 rattus sp.
7	365	94.8	153	11	Q8C4U6	Q8c4u6 mus musculu
8	365	94.8	165	11	Q8CAR0	Q8car0 mus musculu
9	344	89.4	153	13	O93380	O93380 meleagris g
10	333.5	86.6	69	6	O02807	O02807 bubalus bub
11	326	84.7	161	13	Q9PWK2	Q9pwk2 carassius a
12	326	84.7	178	13	Q9IBI0	Q9ibi0 cyprinus ca
13	323	83.9	66	6	Q9N1S6	Q9n1s6 capreolus c
14	323	83.9	161	13	Q9YI82	Q9yi82 carassius a
15	321	83.4	117	13	Q9I9I4	Q9i9i4 ctenopharyn
16	321	83.4	161	13	Q90VV9	Q90vv9 brachydanio
17	318	82.6	116	13	Q91161	Q91161 oncorhynchu
18	318	82.6	117	13	Q91476	Q91476 salmo salar
19	318	82.6	145	13	Q91475	Q91475 salmo salar
20	318	82.6	149	13	Q91231	Q91231 oncorhynchu
21	318	82.6	155	13	Q91162	Q91162 oncorhynchu
22	318	82.6	161	13	Q98SR6	Q98sr6 megalobrama
23	318	82.6	161	13	Q91230	Q91230 oncorhynchu
24	318	82.6	161	13	Q800D5	Q800d5 megalobrama
25	318	82.6	188	13	P81268	P81268 oncorhynchu
26	318	82.6	188	13	Q91965	Q91965 oncorhynchu
27	303	78.7	186	13	Q800Y5	Q800y5 siganus gut
28	302	78.4	159	13	O93607	O93607 paralichthy
29	302	78.4	185	13	O57436	O57436 paralichthy
30	302	78.4	186	13	O93527	O93527 paralichthy
31	302	78.4	186	13	Q7T1A7	Q7t1a7 perca flave
32	301	78.2	104	13	Q7T107	Q7t107 dicentrarch
33	301	78.2	108	13	Q800N0	Q800n0 morone chry
34	301	78.2	108	13	Q800M9	Q800m9 morone saxa
35	301	78.2	108	13	Q800M8	Q800m8 morone chry
36	301	78.2	108	13	Q800M7	Q800m7 morone amer
37	301	78.2	182	13	O73720	O73720 oreochromis
38	301	78.2	182	13	O42289	O42289 oreochromis
39	301	78.2	182	13	P79824	P79824 oreochromis
40	295	76.6	186	13	Q9PSX5	Q9psx5 paralichthy
41	293	76.1	184	13	O42336	O42336 myoxocephal
42	280.5	72.9	185	13	Q9YI57	Q9yi57 acanthopagr
43	278.5	72.3	126	13	Q91442	Q91442 squalus aca
44	278	72.2	62	13	Q9IAA0	Q9iaa0 carassius a
45	275	71.4	57	6	Q28236	Q28236 cervus elap

ALIGNMENTS

RESULT 1
Q9NP10
ID Q9NP10 PRELIMINARY; PRT; 130 AA.
AC Q9NP10;
DT 01-OCT-2000 (TrEMBLrel. 15, Created)
DT 01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT 01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE IGF1 protein precursor.
GN IGF1.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=88065102; PubMed=3683205;
RA Rall L.B., Scott J., Bell G.I.;
RT "Human insulin-like growth factor I and II messenger RNA: isolation of
RT complementary DNA and analysis of expression.";
RL Meth. Enzymol. 146:239-248(1987).
CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; M29644; AAA52543.1; -.
DR HSSP; P01343; 2GF1.
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR GO; GO:0007582; P:physiological processes; IEA.
DR InterPro; IPR004825; Ins/IGF/relax.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00277; INSULINB.
DR SMART; SM00078; I1GF; 1.
DR PROSITE; PS00262; INSULIN; 1.
KW Signal.
FT SIGNAL 1 25 POTENTIAL.
FT CHAIN 26 95 POTENTIAL.
SQ SEQUENCE 130 AA; 14406 MW; 970FBAAECFA0352D CRC64;

Query Match 100.0%; Score 385; DB 4; Length 130;
Best Local Similarity 100.0%; Pred. No. 1.2e-42;

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  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         26 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 85

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         86 CAPLKPAKSA 95


RESULT 2
Q9N1C1
ID   Q9N1C1      PRELIMINARY;      PRT;   133 AA.
AC   Q9N1C1;
DT   01-OCT-2000 (TrEMBLrel. 15, Created)
DT   01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Insulin-like growth factor I (Fragment).
GN   IGF1.
OS   Bos taurus (Bovine).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
OC   Bovidae; Bovinae; Bos.
OX   NCBI_TaxID=9913;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Lien S., Karlsen A., Klemetsdal G., Vage D.I., Olsaker I.,
RA   Klungland H., Aasland M., Heringstad B., Ruane J., Gomez-Raya L.;
RT   "A primary screen of the bovine genome for quantitative trait loci
RT   affecting twinning rate.";
RL   Submitted (DEC-1999) to the EMBL/GenBank/DDBJ databases.
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; AF210387; AAF72409.1; -.
DR   EMBL; AF210385; AAF72409.1; JOINED.
DR   EMBL; AF210386; AAF72409.1; JOINED.
DR   HSSP; P01343; 2GF1.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
FT   NON_TER       1      1
SQ   SEQUENCE   133 AA;  14674 MW;  A6991DBCB75C103B CRC64;

  Query Match             100.0%;  Score 385;  DB 6;  Length 133;
  Best Local Similarity   100.0%;  Pred. No. 1.2e-42;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         29 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 88

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         89 CAPLKPAKSA 98


RESULT 3
Q14620
ID   Q14620      PRELIMINARY;      PRT;   137 AA.
AC   Q14620;
DT   01-NOV-1996 (TrEMBLrel. 01, Created)
DT   01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Insulin-like growth factor I precursor.
GN   IGF1.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=91187000; PubMed=2082190;
RA   Tobin G., Yee D., Brunner N., Rotwein P.;
RT   "A novel human insulin-like growth factor I messenger RNA is expressed
RT   in normal and tumor cells.";
RL   Mol. Endocrinol. 4:1914-1920(1990).
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; M37484; AAA52789.1; -.
DR   PIR; A36552; A36552.
DR   HSSP; P01343; 2GF1.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Signal.
FT   SIGNAL        1     32       POTENTIAL.
FT   CHAIN        33    137       INSULIN-LIKE GROWTH FACTOR I.
SQ   SEQUENCE   137 AA;  15177 MW;  BFCC0D11E32AB75D CRC64;

  Query Match             100.0%;  Score 385;  DB 4;  Length 137;
  Best Local Similarity   100.0%;  Pred. No. 1.3e-42;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         33 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 92

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         93 CAPLKPAKSA 102


RESULT 4
Q13429
ID   Q13429      PRELIMINARY;      PRT;   139 AA.
AC   Q13429;
DT   01-NOV-1996 (TrEMBLrel. 01, Created)
DT   01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Insulin-like growth factor-I (Fragment).
GN   IGF-I.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=95237119; PubMed=7720641;
RA   Chew S.L., Lavender P., Clark A.J., Ross R.J.;
RT   "An alternatively spliced human insulin-like growth factor-I
RT   transcript with hepatic tissue expression that diverts away from the
RT   mitogenic IBE1 peptide.";
RL   Endocrinology 136:1939-1944(1995).
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; U40870; AAA96152.1; -.
DR   HSSP; P01343; 2GF1.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
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DR   PROSITE; PS00262; INSULIN; 1.
FT   NON_TER       1       1
SQ   SEQUENCE   139 AA;  15611 MW;  A62271872CA29DE4 CRC64;

  Query Match             100.0%;  Score 385;  DB 4;  Length 139;
  Best Local Similarity   100.0%;  Pred. No. 1.3e-42;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         30 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 89

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         90 CAPLKPAKSA 99


RESULT 5
P79167
ID   P79167      PRELIMINARY;      PRT;   139 AA.
AC   P79167;
DT   01-MAY-1997 (TrEMBLrel. 03, Created)
DT   01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Insulin-like growth factor IB precursor (IGF-IB) (Somatomedin C)
DE   (Fragments).
GN   IGF1.
OS   Equus caballus (Horse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Perissodactyla; Equidae; Equus.
OX   NCBI_TaxID=9796;
RN   [1]
RP   SEQUENCE OF 1-122 FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=97013467; PubMed=8860303;
RA   Otte K., Rozell B., Gessbo A., Engstrom W.;
RT   "Cloning and sequencing of an equine insulin-like growth factor I cDNA
RT   and its expression in fetal and adult tissues.";
RL   Gen. Comp. Endocrinol. 102:11-15(1996).
RN   [2]
RP   SEQUENCE OF 123-139 FROM N.A.
RA   Nixon A.J., Toland B.D., Sandell L.J.;
RL   Submitted (JAN-1997) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC       ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC       MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC   -!- SUBCELLULAR LOCATION: SECRETED.
CC   -!- ALTERNATIVE PRODUCTS:
CC       Event=Alternative splicing; Named isoforms=2;
CC       Name=IGF-IB;
CC         IsoId=P79167-1; Sequence=Displayed;
CC       Name=IGF-IA;
CC         IsoId=P51458-1; Sequence=External;
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; U28070; AAA68952.1; -.
DR   EMBL; U85271; AAB47484.1; -.
DR   HSSP; P01343; 2GF1.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0008083; F:growth factor activity; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Signal; Alternative splicing.
FT   SIGNAL        1      ?
FT   PROPEP        ?     48       BY SIMILARITY.
FT   CHAIN        49    118       INSULIN-LIKE GROWTH FACTOR IB.
FT   DOMAIN       49     77       B.
FT   DOMAIN       78     89       C.
FT   DOMAIN       90    110       A.
FT   DOMAIN      111    118       D.
FT   PROPEP      119   >139       E PEPTIDE.
FT   NON_CONS    122    123
FT   DISULFID     54     96       BY SIMILARITY.
FT   DISULFID     66    109       BY SIMILARITY.
FT   DISULFID     95    100       BY SIMILARITY.
FT   NON_TER     139    139
SQ   SEQUENCE   139 AA;  15612 MW;  CDC0E8F19C261A2C CRC64;

  Query Match             100.0%;  Score 385;  DB 6;  Length 139;
  Best Local Similarity   100.0%;  Pred. No. 1.3e-42;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db        109 CAPLKPAKSA 118


RESULT 6
P97899
ID   P97899      PRELIMINARY;      PRT;   127 AA.
AC   P97899;
DT   01-MAY-1997 (TrEMBLrel. 03, Created)
DT   01-MAY-1997 (TrEMBLrel. 03, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Insulin-like growth factor I.
OS   Rattus sp.
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX   NCBI_TaxID=10118;
RN   [1]
RP   PARTIAL SEQUENCE FROM N.A.
RX   MEDLINE=87222423; PubMed=3034909;
RA   Shimatsu A., Rotwein P.;
RT   "Mosaic evolution of the insulin-like growth factors.";
RL   J. Biol. Chem. 262:7894-7900(1987).
RN   [2]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=91103966; PubMed=1368571;
RA   Kato H., Okoshi A., Miura Y., Noguchi T.;
RT   "A new cDNA clone relating to larger molecular species of rat insulin-
RT   like growth factor-I mRNA.";
RL   Agric. Biol. Chem. 54:1599-1601(1990).
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; D00698; BAA00604.1; -.
DR   HSSP; P01343; 2GF1.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
FT   CHAIN        23     92       POTENTIAL.
SQ   SEQUENCE   127 AA;  14106 MW;  104E126BCFCA5CB7 CRC64;

  Query Match             95.6%;  Score 368;  DB 11;  Length 127;
  Best Local Similarity   95.7%;  Pred. No. 2e-40;
  Matches   67;  Conservative    0;  Mismatches    3;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| |||||||||||||| |||||||||||||||||||||||||||
Db         23 GPETLCGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 82

Qy         61 CAPLKPAKSA 70
              |||||| |||
Db         83 CAPLKPTKSA 92
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RESULT 7
Q8C4U6
ID   Q8C4U6      PRELIMINARY;      PRT;   153 AA.
AC   Q8C4U6;
DT   01-MAR-2003 (TrEMBLrel. 23, Created)
DT   01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
DT   01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE   Unknown EST.
GN   C730016P09RIK.
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=C57BL/6J; TISSUE=Cerebellum;
RX   MEDLINE=22354683; PubMed=12466851;
RA   The FANTOM Consortium,
RA   the RIKEN Genome Exploration Research Group Phase I & II Team;
RT   "Analysis of the mouse transcriptome based on functional annotation of
RT   60,770 full-length cDNAs.";
RL   Nature 420:563-573(2002).
DR   EMBL; AK081019; BAC38117.1; -.
DR   MGD; MGI:2444166; C730016P09Rik.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
SQ   SEQUENCE   153 AA;  17093 MW;  967596AEAC0CA387 CRC64;

  Query Match             94.8%;  Score 365;  DB 11;  Length 153;
  Best Local Similarity   94.3%;  Pred. No. 6.1e-40;
  Matches   66;  Conservative    1;  Mismatches    3;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||||| |||||||||||||| ||||||||||||||||||||||||
Db         49 GPETLCGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy         61 CAPLKPAKSA 70
              |||||| |:|
Db        109 CAPLKPTKAA 118


RESULT 8
Q8CAR0
ID   Q8CAR0      PRELIMINARY;      PRT;   165 AA.
AC   Q8CAR0;
DT   01-MAR-2003 (TrEMBLrel. 23, Created)
DT   01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
DT   01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE   Unknown EST.
GN   C730016P09RIK.
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=C57BL/6J; TISSUE=Thymus;
RX   MEDLINE=22354683; PubMed=12466851;
RA   The FANTOM Consortium,
RA   the RIKEN Genome Exploration Research Group Phase I & II Team;
RT   "Analysis of the mouse transcriptome based on functional annotation of
RT   60,770 full-length cDNAs.";
RL   Nature 420:563-573(2002).
DR   EMBL; AK038119; BAC29934.1; -.
DR   MGD; MGI:2444166; C730016P09Rik.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
SQ   SEQUENCE   165 AA;  18473 MW;  2CE0D3DA981C93F8 CRC64;

  Query Match             94.8%;  Score 365;  DB 11;  Length 165;
  Best Local Similarity   94.3%;  Pred. No. 6.6e-40;
  Matches   66;  Conservative    1;  Mismatches    3;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||||| |||||||||||||| ||||||||||||||||||||||||
Db         33 GPETLCGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 92

Qy         61 CAPLKPAKSA 70
              |||||| |:|
Db         93 CAPLKPTKAA 102


RESULT 9
O93380
ID   O93380      PRELIMINARY;      PRT;   153 AA.
AC   O93380;
DT   01-NOV-1998 (TrEMBLrel. 08, Created)
DT   01-NOV-1998 (TrEMBLrel. 08, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Insulin-like growth factor-I precursor.
GN   IGFI.
OS   Meleagris gallopavo (Common turkey).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Meleagris.
OX   NCBI_TaxID=9103;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=Big 6 ML Tom; TISSUE=Liver;
RA   Czerwinski S.M., Ashwell C.M., McMurtry J.P.;
RT   "Cloning of turkey insulin-like growth factor-I (IGF-I).";
RL   Submitted (JUN-1998) to the EMBL/GenBank/DDBJ databases.
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; AF074980; AAC26006.1; -.
DR   HSSP; P01343; 2GF1.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Signal.
FT   SIGNAL        1     48       POTENTIAL.
FT   CHAIN        49    118       INSULIN-LIKE GROWTH FACTOR-I.
SQ   SEQUENCE   153 AA;  17295 MW;  5AF1E5B8D13C70B5 CRC64;

  Query Match             89.4%;  Score 344;  DB 13;  Length 153;
  Best Local Similarity   88.6%;  Pred. No. 3.5e-37;
  Matches   62;  Conservative    3;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||||||||||:|||||||||||    ||||||||:||||||||||
Db         49 GPETLCGAELVDALQFVCGDRGFYFSKPTGYGSSSRRLHHKGIVDECCFQSCDLRRLEMY 108

Qy         61 CAPLKPAKSA 70
              |||:|| |||
Db        109 CAPIKPPKSA 118


RESULT 10
O02807
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ID   O02807      PRELIMINARY;      PRT;    69 AA.
AC   O02807;
DT   01-JUL-1997 (TrEMBLrel. 04, Created)
DT   01-JUL-1997 (TrEMBLrel. 04, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Pro-insulin like growth factor IA (IGFIA) (Fragment).
OS   Bubalus bubalis (Domestic water buffalo).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
OC   Bovidae; Bovinae; Bubalus.
OX   NCBI_TaxID=89462;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Lung;
RA   Daliri M., Appa Rao K.B.C., Kaur G., Garg S., Patil S., Totey S.M.;
RT   "The expression of growth factor ligand and receptor genes in
RT   preimplantation stage buffalo embryos and oviductal epithelial
RT   cells.";
RL   Submitted (JAN-1997) to the EMBL/GenBank/DDBJ databases.
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; Y10691; CAA71694.1; -.
DR   HSSP; P01343; 2GF1.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00276; INSULINA.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
FT   NON_TER       1      1
FT   NON_TER      69     69
SQ   SEQUENCE   69 AA;  7501 MW;  ACFE4DF0AF49B6C6 CRC64;

  Query Match             86.6%;  Score 333.5;  DB 6;  Length 69;
  Best Local Similarity   88.6%;  Pred. No. 3.5e-36;
  Matches   62;  Conservative    1;  Mismatches    6;  Indels    1;  Gaps    1;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||    ||| ||||||||||||||| ||||||||||||||||||||||||
Db          1 GPETLCGAELVDP-SVVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 59

Qy         61 CAPLKPAKSA 70
              |||||| |:|
Db         60 CAPLKPTKAA 69


RESULT 11
Q9PWK2
ID   Q9PWK2      PRELIMINARY;      PRT;   161 AA.
AC   Q9PWK2;
DT   01-MAY-2000 (TrEMBLrel. 13, Created)
DT   01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Insulin-like growth factor-I.
OS   Carassius auratus (Goldfish).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
OC   Cyprinidae; Carassius.
OX   NCBI_TaxID=7957;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Ovary;
RA   Kermouni A., Mahmoud S.S., Wang S., Moloney M., Habibi H.R.;
RT   "Cloning of a full-length Insulin-like growth Factor-I complementary
RT   DNA in the goldfish liver and ovary and development of a quantitative
RT   PCR method for its measurement.";
RL   Submitted (APR-1997) to the EMBL/GenBank/DDBJ databases.
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; AF001006; AAC83444.1; -.
DR   HSSP; P01343; 2GF1.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
SQ   SEQUENCE   161 AA;  17879 MW;  A2588523DFCE0429 CRC64;

  Query Match             84.7%;  Score 326;  DB 13;  Length 161;
  Best Local Similarity   82.6%;  Pred. No. 8.6e-35;
  Matches   57;  Conservative    6;  Mismatches    6;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||| |||||||||||:|||||| ||||:   ||||||||:||:|||||||
Db         45 GPETLCGAELVDTLQFVCGDRGFYFSKPTGYGPSSRRSHNRGIVDECCFQSCELRRLEMY 104

Qy         61 CAPLKPAKS 69
              |||:|| |:
Db        105 CAPVKPGKT 113


RESULT 12
Q9IBI0
ID   Q9IBI0      PRELIMINARY;      PRT;   178 AA.
AC   Q9IBI0;
DT   01-OCT-2000 (TrEMBLrel. 15, Created)
DT   01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT   01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE   Insulin-like growth factor I subtype Ea2.
GN   IGF-IEA2 OR IGF-I.
OS   Cyprinus carpio (Common carp).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
OC   Cyprinidae; Cyprinus.
OX   NCBI_TaxID=7962;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=96241923; PubMed=8680527;
RA   Liang Y.H., Cheng C.H., Chan K.M.;
RT   "Insulin-like growth factor IEa2 is the predominantly expressed form
RT   of IGF in common carp (Cyprinus carpio).";
RL   Mol. Mar. Biol. Biotechnol. 5:145-152(1996).
RN   [2]
RP   SEQUENCE FROM N.A.
RA   Vong Q.P., Chan K.M., Cheng C.H.K.;
RT   "Common carp insulin-like growth factor-I gene: Genomic organization
RT   and functional characterization of the 5'-flanking region.";
RL   Submitted (JAN-2002) to the EMBL/GenBank/DDBJ databases.
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; S82374; AAB37702.2; -.
DR   EMBL; AF465830; AAP78926.1; -.
DR   HSSP; P01343; 2GF1.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
SQ   SEQUENCE   178 AA;  19687 MW;  7075A34FF379C459 CRC64;

  Query Match             84.7%;  Score 326;  DB 13;  Length 178;
  Best Local Similarity   82.6%;  Pred. No. 9.6e-35;
  Matches   57;  Conservative    6;  Mismatches    6;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||| |||||||||||:|||||| ||||:   ||||||||:||:|||||||
Db         62 GPETLCGAELVDTLQFVCGDRGFYFSKPTGYGPSSRRSHNRGIVDECCFQSCELRRLEMY 121
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Qy          61 CAPLKPAKS 69
               |||:|| |:
Db         122 CAPVKPGKT 130


RESULT 13
Q9N1S6
ID   Q9N1S6      PRELIMINARY;      PRT;    66 AA.
AC   Q9N1S6;
DT   01-OCT-2000 (TrEMBLrel. 15, Created)
DT   01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Insulin-like growth factor I (Fragment).
GN   IGF-I.
OS   Capreolus capreolus (Roe deer).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Cervoidea;
OC   Cervidae; Odocoileinae; Capreolus.
OX   NCBI_TaxID=9858;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Testis;
RX   MEDLINE=20532861; PubMed=11078967;
RA   Wagener A., Blottner S., Goritz F., Fickel J.;
RT   "Detection of growth factors in the testis of roe deer (Capreolus
RT   capreolus).";
RL   Anim. Reprod. Sci. 64:65-75(2000).
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; AF152588; AAF73227.1; -.
DR   HSSP; P01343; 2GF1.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00276; INSULINA.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
FT   NON_TER       1      1
FT   NON_TER      66     66
SQ   SEQUENCE   66 AA;  7422 MW;  4BD5ACFBADF73E51 CRC64;

  Query Match             83.9%;  Score 323;  DB 6;  Length 66;
  Best Local Similarity   98.3%;  Pred. No. 8.1e-35;
  Matches   58;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          12 DALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMYCAPLKPAKSA 70
               |||||||||||||||||||||||||||||||||||||||||||||||||||||||||:|
Db           1 DALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMYCAPLKPAKAA 59


RESULT 14
Q9YI82
ID   Q9YI82      PRELIMINARY;      PRT;   161 AA.
AC   Q9YI82;
DT   01-MAY-1999 (TrEMBLrel. 10, Created)
DT   01-MAY-1999 (TrEMBLrel. 10, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Insulin-like growth factor-I.
OS   Carassius auratus (Goldfish).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
OC   Cyprinidae; Carassius.
OX   NCBI_TaxID=7957;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RA   Kermouni A., Mahmoud S.S., Wang S., Moloney M., Habibi H.R.;
RT   "Cloning of a full-length Insulin-like growth Factor-I complementary
RT   DNA in the goldfish liver and ovary and development of a quantitative
RT   PCR method for its measurement.";
RL   Submitted (APR-1997) to the EMBL/GenBank/DDBJ databases.
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; AF001005; AAC83443.1; -.
DR   HSSP; P01343; 2GF1.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
SQ   SEQUENCE   161 AA;  17976 MW;  86E60EADAAD85C9D CRC64;

  Query Match             83.9%;  Score 323;  DB 13;  Length 161;
  Best Local Similarity   81.2%;  Pred. No. 2.1e-34;
  Matches   56;  Conservative    7;  Mismatches    6;  Indels    0;  Gaps    0;

Qy           1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
               |||||||||||| |||||||||||:|||||| :|||:   ||||||||:||:|||||||
Db          45 GPETLCGAELVDTLQFVCGDRGFYFSKPTGYGPNSRRSHNRGIVDECCFQSCELRRLEMY 104

Qy          61 CAPLKPAKS 69
               |||:|| |:
Db         105 CAPVKPGKT 113


RESULT 15
Q9I9I4
ID   Q9I9I4      PRELIMINARY;      PRT;   117 AA.
AC   Q9I9I4;
DT   01-OCT-2000 (TrEMBLrel. 15, Created)
DT   01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Insulin-like growth factor-I (Fragment).
OS   Ctenopharyngodon idella (Grass carp).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
OC   Cyprinidae; Ctenopharyngodon.
OX   NCBI_TaxID=7959;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RA   Bai J.J., Ye X., Li Y.H., Li X.H., Jian Q., Lou J.R.;
RT   "Isolation and characterization of grass carp (Ctenopharyngodon
RT   idellus) insulin-like growth factor gene.";
RL   Submitted (MAR-2000) to the EMBL/GenBank/DDBJ databases.
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; AF247658; AAF65819.1; -.
DR   HSSP; P01343; 2GF1.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
FT   NON_TER       1      1
SQ   SEQUENCE   117 AA;  13050 MW;  CA00DAFF7913A34A CRC64;

  Query Match             83.4%;  Score 321;  DB 13;  Length 117;
  Best Local Similarity   82.6%;  Pred. No. 2.8e-34;
  Matches   57;  Conservative    5;  Mismatches    7;  Indels    0;  Gaps    0;

Qy           1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
               |||||||||||| |||||||||||:|||||| ||||:   ||||||||:||:|||||||
Db           1 GPETLCGAELVDTLQFVCGDRGFYFSKPTGYGPSSRRSHNRGIVDECCFQSCELRRLEMY 60

Qy          61 CAPLKPAKS 69
               |||:|  ||
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Db         61 CAPVKTGKS 69


RESULT 16
Q90VV9
ID   Q90VV9      PRELIMINARY;      PRT;   161 AA.
AC   Q90VV9;
DT   01-DEC-2001 (TrEMBLrel. 19, Created)
DT   01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Insulin-like growth factor 1 precursor (Insulin-like growth factor IL)
DE   (Insulin-like growth factor 1b).
GN   IGF1 OR IGF-1 OR IGF-1L.
OS   Brachydanio rerio (Zebrafish) (Danio rerio).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
OC   Cyprinidae; Danio.
OX   NCBI_TaxID=7955;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Chen M.H.C., Lin G., Gong H., Weng C., Chang C., Wu J.;
RT   "The characterization of prepro-Insulin-like growth factor-1 Ea-2
RT   expression and Insulin-like growth factor-1 genes (devoid 81 bp) in
RT   the zebrafish (Danio rerio).";
RL   Submitted (MAY-2000) to the EMBL/GenBank/DDBJ databases.
RN   [2]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=21261964; PubMed=11368902;
RA   Chen M.H.C., Lin G.H., Gong H.Y., Weng C.F., Chang C.Y., Wu J.L.;
RT   "The characterization of prepro-Insulin-like growth factor-1 Ea-2
RT   expression and Insulin-like growth factor-1 genes (devoid 81 bp) in
RT   the zebrafish (Danio rerio).";
RL   Gene 268:67-75(2001).
RN   [3]
RP   SEQUENCE FROM N.A.
RA   Chen M.H.C., Lin G.-H., Gong H.-Y., Weng C.-F., Chang C.-Y., Wu J.-L.;
RT   "The characterization of prepro-insulin-like growth factor 1 Ea-2
RT   expression and insulin-like growth factor 1 genes (devoid 81 bp) in
RT   the zebrafish (Danio rerio).";
RL   Submitted (OCT-2000) to the EMBL/GenBank/DDBJ databases.
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; AF268051; AAK58584.1; -.
DR   EMBL; AF270704; AAK58609.1; -.
DR   EMBL; AF270703; AAK58609.1; JOINED.
DR   EMBL; AF314545; AAL26846.1; -.
DR   HSSP; P01308; 1LNP.
DR   ZFIN; ZDB-GENE-010607-2; igf1.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Signal.
FT   SIGNAL       1     44       POTENTIAL.
SQ   SEQUENCE   161 AA;  17925 MW;  C97DE0B1FF24E0CC CRC64;

  Query Match             83.4%;  Score 321;  DB 13;  Length 161;
  Best Local Similarity   82.6%;  Pred. No. 3.9e-34;
  Matches   57;  Conservative    5;  Mismatches    7;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||| |||||||||||:|||||| ||||:   ||||||||:||:|||||||
Db         45 GPETLCGAELVDTLQFVCGDRGFYFSKPTGYGPSSRRSHNRGIVDECCFQSCELRRLEMY 104

Qy         61 CAPLKPAKS 69
              |||:|  ||
Db        105 CAPVKTGKS 113


RESULT 17
Q91161
ID   Q91161      PRELIMINARY;      PRT;   116 AA.
AC   Q91161;
DT   01-NOV-1996 (TrEMBLrel. 01, Created)
DT   01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Insulin-like growth factor I precursor (Fragment).
OS   Oncorhynchus kisutch (Coho salmon).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC   Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX   NCBI_TaxID=8019;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=90190659; PubMed=2628735;
RA   Cao Q.P, Duguay S.J, Plisetskaya E., Steiner D.F., Chan S.J.;
RT   "Nucleotide sequence and growth hormone regulated expression of salmon
RT   insulin-like growth factor I mRNA.";
RL   Mol. Endocrinol. 3:2005-2010(1989).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=93024477; PubMed=1406698;
RA   Duguay S.J, Park L.K., Samadpour M., Dickhoff W.W.;
RT   "Nucleotide sequence and tissue distribution of three insulin-like
RT   growth factor I prohormones in salmon.";
RL   Mol. Endocrinol. 6:1202-1210(1992).
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; M81911; AAB59947.1; -.
DR   HSSP; P01343; 2GF1.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Signal.
FT   NON_TER      1      1
FT   SIGNAL      <1     18       POTENTIAL.
FT   CHAIN        19    >88       INSULIN-LIKE GROWTH FACTOR I.
FT   NON_TER     116    116
SQ   SEQUENCE   116 AA;  12697 MW;  C5F378915179D89D CRC64;

  Query Match             82.6%;  Score 318;  DB 13;  Length 116;
  Best Local Similarity   80.0%;  Pred. No. 6.8e-34;
  Matches   56;  Conservative    7;  Mismatches    7;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||| |||||||:|||||:|||||| ||||:   ||||||||:||:|||||||
Db         19 GPETLCGAELVDTLQFVCGERGFYFSKPTGYGPSSRRSHNRGIVDECCFQSCELRRLEMY 78

Qy         61 CAPLKPAKSA 70
              |||:|  |:|
Db         79 CAPVKSGKAA 88


RESULT 18
Q91476
ID   Q91476      PRELIMINARY;      PRT;   117 AA.
AC   Q91476;
DT   01-NOV-1996 (TrEMBLrel. 01, Created)
DT   01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Insulin-like growth factor I precursor (Fragment).
OS   Salmo salar (Atlantic salmon).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC   Protacanthopterygii; Salmoniformes; Salmonidae; Salmo.
```

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OX   NCBI_TaxID=8030;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=93024477; PubMed=1406698;
RA   Duguay S.J., Park L.K., Samadpour M., Dickhoff W.W.;
RT   "Nucleotide sequence and tissue distribution of three insulin-like
RT   growth factor I prohormones in salmon.";
RL   Mol. Endocrinol. 6:1202-1210(1992).
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; M81904; AAA18212.1; -.
DR   HSSP; P01343; 2GF1.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Signal.
FT   NON_TER       1      1
FT   SIGNAL       <1     18       POTENTIAL.
FT   CHAIN        19     88       INSULIN-LIKE GROWTH FACTOR I.
SQ   SEQUENCE   117 AA;  12867 MW;  A97666EE2F526EAC CRC64;

  Query Match             82.6%;  Score 318;  DB 13;  Length 117;
  Best Local Similarity   80.0%;  Pred. No. 6.9e-34;
  Matches   56;  Conservative    7;  Mismatches    7;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||  ||||||:|||||:||||||  ||||:   ||||||||:||:|||||||
Db         19 GPETLCGAELVDTLQFVCGERGFYFSKPTGYGPSSRRSHNRGIVDECCFQSCELRRLEMY 78

Qy         61 CAPLKPAKSA 70
              |||:|  |:|
Db         79 CAPVKSGKAA 88


RESULT 19
Q91475
ID   Q91475      PRELIMINARY;      PRT;   145 AA.
AC   Q91475;
DT   01-NOV-1996 (TrEMBLrel. 01, Created)
DT   01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Insulin-like growth factor I precursor (Fragment).
OS   Salmo salar (Atlantic salmon).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC   Protacanthopterygii; Salmoniformes; Salmonidae; Salmo.
OX   NCBI_TaxID=8030;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=93024477; PubMed=1406698;
RA   Duguay S.J., Park L.K., Samadpour M., Dickhoff W.W.;
RT   "Nucleotide sequence and tissue distribution of three insulin-like
RT   growth factor I prohormones in salmon.";
RL   Mol. Endocrinol. 6:1202-1210(1992).
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; M81904; AAA18211.1; -.
DR   HSSP; P01343; 2GF1.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Signal.
FT   NON_TER       1      1
FT   SIGNAL       <1     18       POTENTIAL.
FT   CHAIN        19    >88       INSULIN-LIKE GROWTH FACTOR I.
FT   NON_TER     145    145
SQ   SEQUENCE   145 AA;  15885 MW;  3D94EDF477268FC4 CRC64;

  Query Match             82.6%;  Score 318;  DB 13;  Length 145;
  Best Local Similarity   80.0%;  Pred. No. 8.7e-34;
  Matches   56;  Conservative    7;  Mismatches    7;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||  ||||||:|||||:||||||  ||||:   ||||||||:||:|||||||
Db         19 GPETLCGAELVDTLQFVCGERGFYFSKPTGYGPSSRRSHNRGIVDECCFQSCELRRLEMY 78

Qy         61 CAPLKPAKSA 70
              |||:|  |:|
Db         79 CAPVKSGKAA 88


RESULT 20
Q91231
ID   Q91231      PRELIMINARY;      PRT;   149 AA.
AC   Q91231;
DT   01-NOV-1996 (TrEMBLrel. 01, Created)
DT   01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Insulin-like growth factor-I.
GN   IGF-I.
OS   Oncorhynchus tschawytscha (Chinook salmon) (King salmon).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC   Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX   NCBI_TaxID=74940;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=Big Qualicum River; TISSUE=Liver;
RX   MEDLINE=93247592; PubMed=7683374;
RA   Wallis A.E., Devlin R.H.;
RT   "Duplicate insulin-like growth factor-I genes in salmon display
RT   alternative splicing pathways.";
RL   Mol. Endocrinol. 7:409-422(1993).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   STRAIN=Big Qualicum River; TISSUE=Liver;
RA   Devlin R.H.;
RL   Submitted (OCT-1994) to the EMBL/GenBank/DDBJ databases.
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; U15962; AAA67268.1; -.
DR   PIR; D54270; D54270.
DR   HSSP; P01343; 2GF1.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
SQ   SEQUENCE   149 AA;  16507 MW;  9AC8F072762D2AA0 CRC64;

  Query Match             82.6%;  Score 318;  DB 13;  Length 149;
  Best Local Similarity   80.0%;  Pred. No. 9e-34;
  Matches   56;  Conservative    7;  Mismatches    7;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||  ||||||:|||||:||||||  ||||:   ||||||||:||:|||||||
Db         45 GPETLCGAELVDTLQFVCGERGFYFSKPTGYGPSSRRSHNRGIVDECCFQSCELRRLEMY 104

Qy         61 CAPLKPAKSA 70
              |||:|  |:|
Db        105 CAPVKSGKAA 114
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RESULT 21
Q91162
ID   Q91162      PRELIMINARY;      PRT;   155 AA.
AC   Q91162;
DT   01-NOV-1996 (TrEMBLrel. 01, Created)
DT   01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Insulin-like growth factor I precursor (Fragment).
OS   Oncorhynchus kisutch (Coho salmon).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC   Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX   NCBI_TaxID=8019;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=90190659; PubMed=2628735;
RA   Cao Q.P, Duguay S.J, Plisetskaya E., Steiner D.F., Chan S.J.;
RT   "Nucleotide sequence and growth hormone regulated expression of salmon
RT   insulin-like growth factor I mRNA.";
RL   Mol. Endocrinol. 3:2005-2010(1989).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=93024477; PubMed=1406698;
RA   Duguay S.J, Park L.K., Samadpour M., Dickhoff W.W.;
RT   "Nucleotide sequence and tissue distribution of three insulin-like
RT   growth factor I prohormones in salmon.";
RL   Mol. Endocrinol. 6:1202-1210(1992).
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; M81913; AAA49413.1; -.
DR   PIR; C44012; C44012.
DR   HSSP; P01343; 2GF1.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Signal.
FT   NON_TER       1      1
FT   SIGNAL       <1     18       POTENTIAL.
FT   CHAIN        19    >88       INSULIN-LIKE GROWTH FACTOR I.
FT   CONFLICT     73     73       R -> X (IN REF. 1).
FT   NON_TER     155    155
SQ   SEQUENCE   155 AA;  16968 MW;  022FD3CA39CA3160 CRC64;

  Query Match             82.6%;  Score 318;  DB 13;  Length 155;
  Best Local Similarity   80.0%;  Pred. No. 9.4e-34;
  Matches   56;  Conservative    7;  Mismatches    7;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||| ||||||:|||||:|||||| ||||:   ||||||||:||:|||||||
Db         19 GPETLCGAELVDTLQFVCGERGFYFSKPTGYGPSSRRSHNRGIVDECCFQSCELRRLEMY 78

Qy         61 CAPLKPAKSA 70
               |||:|  |:|
Db         79 CAPVKSGKAA 88


RESULT 22
Q98SR6
ID   Q98SR6      PRELIMINARY;      PRT;   161 AA.
AC   Q98SR6;
DT   01-JUN-2001 (TrEMBLrel. 17, Created)
DT   01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Insulin-like growth factor I.
OS   Megalobrama amblycephala.
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
OC   Cyprinidae; Megalobrama.
OX   NCBI_TaxID=75352;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RA   Bai J., Lao H., Ye X.;
RT   "Molecular cloning and sequence analysis of insulin-like growth factor
RT   I cDNA from bluntsnout bream (Megalobrama amblycephala).";
RL   Submitted (DEC-2000) to the EMBL/GenBank/DDBJ databases.
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; AF332865; AAK16727.1; -.
DR   HSSP; P01343; 2GF1.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
SQ   SEQUENCE   161 AA;  17949 MW;  A7B220C4C08127A8 CRC64;

  Query Match             82.6%;  Score 318;  DB 13;  Length 161;
  Best Local Similarity   81.2%;  Pred. No. 9.7e-34;
  Matches   56;  Conservative    6;  Mismatches    7;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||| ||||||:|||||:|||||| ||||:   ||||||||:||:|||||||
Db         45 GPETLCGAELVDTLQFVCGDRGFYFSKPTGYGPSSRRSHNRGIVDECCFQSCELRRLEMY 104

Qy         61 CAPLKPAKS 69
               |||:|  |:
Db        105 CAPVKTGKT 113


RESULT 23
Q91230
ID   Q91230      PRELIMINARY;      PRT;   161 AA.
AC   Q91230;
DT   01-NOV-1996 (TrEMBLrel. 01, Created)
DT   01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Insulin-like growth factor-I.
GN   IGF-I.
OS   Oncorhynchus tschawytscha (Chinook salmon) (King salmon).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC   Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX   NCBI_TaxID=74940;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=Big Qualicum River; TISSUE=Liver;
RX   MEDLINE=93247592; PubMed=7683374;
RA   Wallis A.E., Devlin R.H.;
RT   "Duplicate insulin-like growth factor-I genes in salmon display
RT   alternative splicing pathways.";
RL   Mol. Endocrinol. 7:409-422(1993).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   STRAIN=Big Qualicum River; TISSUE=Liver;
RA   Devlin R.H.;
RL   Submitted (OCT-1994) to the EMBL/GenBank/DDBJ databases.
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; U15961; AAA67267.1; -.
DR   PIR; C54270; C54270.
DR   HSSP; P01343; 2GF1.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
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DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
SQ   SEQUENCE   161 AA;  17763 MW;  A5A85D121377BF67 CRC64;

  Query Match             82.6%;  Score 318;  DB 13;  Length 161;
  Best Local Similarity   80.0%;  Pred. No. 9.7e-34;
  Matches   56;  Conservative    7;  Mismatches    7;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||| ||||||:|||||:|||||| ||||:   ||||||||:||:|||||||
Db         45 GPETLCGAELVDTLQFVCGERGFYFSKPTGYGPSSRRSHNRGIVDECCFQSCELRRLEMY 104

Qy         61 CAPLKPAKSA 70
              |||:|  |:|
Db        105 CAPVKSGKAA 114


RESULT 24
Q800D5
ID   Q800D5      PRELIMINARY;      PRT;   161 AA.
AC   Q800D5;
DT   01-JUN-2003 (TrEMBLrel. 24, Created)
DT   01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
DT   01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE   Insulin-like growth factor I.
OS   Megalobrama terminalis.
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
OC   Cyprinidae; Megalobrama.
OX   NCBI_TaxID=75354;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RA   Liu H.Y., Tong F.D.;
RT   "The generic-specific differences of IGF-1 between the triangular
RT   bream (Megalobrama terminalis) and cyprinoid fish.";
RL   Submitted (MAR-2003) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AY247412; AAO89239.1; -.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
SQ   SEQUENCE   161 AA;  17905 MW;  A49327B4C08120D8 CRC64;

  Query Match             82.6%;  Score 318;  DB 13;  Length 161;
  Best Local Similarity   81.2%;  Pred. No. 9.7e-34;
  Matches   56;  Conservative    6;  Mismatches    7;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||| |||||||||||:|||||| ||||:   ||||||||:||:|||||||
Db         45 GPETLCGAELVDTLQFVCGDRGFYFSKPTGYGPSSRRSHNRGIVDECCFQSCELRRLEMY 104

Qy         61 CAPLKPAKS 69
              |||:|  |:
Db        105 CAPVKTGKT 113


RESULT 25
P81268
ID   P81268      PRELIMINARY;      PRT;   188 AA.
AC   P81268;
DT   01-AUG-1998 (TrEMBLrel. 07, Created)
DT   01-AUG-1998 (TrEMBLrel. 07, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Insulin-like growth factor I precursor.
GN   IGF-I.1.
OS   Oncorhynchus keta (Chum salmon).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC   Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX   NCBI_TaxID=8018;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Kavsan V.M., Koval A.P., Grebenjuk V.A., Chan S.J., Steiner D.F.,
RA   Roberts C.T. Jr., Leroith D.;
RT   "Structure of the Chum Salmon Insulin-Like Growth Factor I Gene.";
RL   DNA Cell Biol. 11:729-737(1993).
RN   [2]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=94296559; PubMed=8024699;
RA   Kavsan V.M., Grebenjuk V.A., Koval A.P., Skorokhod A.S.,
RA   Roberts C.T.Jr., Leroith D.;
RT   "Isolation of a second nonallelic insulin-like growth factor I gene
RT   from the salmon genome.";
RL   DNA Cell Biol. 13:555-559(1994).
RN   [3]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=95032736;
RA   Koval A., Kulik V., Duguay S., Plisetskaya E., Adamo M.L.,
RA   Roberts C.T.Jr., Leroith D., Kavsan V.;
RT   "Characterization of a salmon insulin-like growth factor I promoter.";
RL   DNA Cell Biol. 13:1057-1062(1994).
RN   [4]
RP   SEQUENCE FROM N.A.
RA   Gebenjuk V.A., Skorokhod A.S., Anoprienko O.V., Koval A.P.;
RL   Submitted (MAY-1998) to the EMBL/GenBank/DDBJ databases.
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; AF063216; AAC18833.1; -.
DR   HSSP; P01343; 2GF1.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
SQ   SEQUENCE   188 AA;  20792 MW;  F4CEB6D05E0F24B8 CRC64;

  Query Match             82.6%;  Score 318;  DB 13;  Length 188;
  Best Local Similarity   80.0%;  Pred. No. 1.2e-33;
  Matches   56;  Conservative    7;  Mismatches    7;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||| ||||||:|||||:|||||| ||||:   ||||||||:||:|||||||
Db         45 GPETLCGAELVDTLQFVCGERGFYFSKPTGYGPSSRRSHNRGIVDECCFQSCELRRLEMY 104

Qy         61 CAPLKPAKSA 70
              |||:|  |:|
Db        105 CAPVKSGKAA 114


RESULT 26
Q91965
ID   Q91965      PRELIMINARY;      PRT;   188 AA.
AC   Q91965;
DT   01-NOV-1996 (TrEMBLrel. 01, Created)
DT   01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT   01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE   Insulin-like growth factor-I.
GN   IGF-I.
OS   Oncorhynchus tschawytscha (Chinook salmon) (King salmon).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC   Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX   NCBI_TaxID=74940;
RN   [1]
```

```
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=93247592; PubMed=7683374;
RA   Wallis A.E., Devlin R.H.;
RT   "Duplicate insulin-like growth factor-I genes in salmon display
RT   alternative splicing pathways.";
RL   Mol. Endocrinol. 7:409-422(1993).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RA   Devlin R.H.;
RL   Submitted (OCT-1994) to the EMBL/GenBank/DDBJ databases.
RN   [3]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RA   Devlin R.H.;
RL   Submitted (SEP-1994) to the EMBL/GenBank/DDBJ databases.
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; U15960; AAA67266.1; -.
DR   EMBL; U14536; AAA67263.1; -.
DR   PIR; A54270; A54270.
DR   PIR; B54270; B54270.
DR   HSSP; P01343; 2GF1.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
SQ   SEQUENCE   188 AA;  20782 MW;  F4D705BA811024B8 CRC64;

  Query Match             82.6%;  Score 318;  DB 13;  Length 188;
  Best Local Similarity   80.0%;  Pred. No. 1.2e-33;
  Matches   56;  Conservative    7;  Mismatches    7;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||| |||||:|||||:|||||| ||||:   ||||||||:||:|||||||
Db         45 GPETLCGAELVDTLQFVCGERGFYFSKPTGYGPSSRRSHNRGIVDECCFQSCELRRLEMY 104

Qy         61 CAPLKPAKSA 70
              |||:|  |:|
Db        105 CAPVKSGKAA 114


RESULT 27
Q800Y5
ID   Q800Y5     PRELIMINARY;      PRT;   186 AA.
AC   Q800Y5;
DT   01-JUN-2003 (TrEMBLrel. 24, Created)
DT   01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
DT   01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE   Preproinsulin-like growth factor I precursor.
OS   Siganus guttatus (Rabbitfish).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes;
OC   Acanthuroidei; Siganidae; Siganus.
OX   NCBI_TaxID=92439;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=22027815; PubMed=12030772;
RA   Ayson F.G., de Jesus E.G., Moriyama S., Hyodo S., Funkenstein B.,
RA   Gertler A., Kawauchi H.;
RT   "Differential expression of insulin-like growth factor I and II mRNAs
RT   during embryogenesis and early larval development in rabbitfish,
RT   Siganus guttatus.";
RL   Gen. Comp. Endocrinol. 126:165-174(2002).
DR   EMBL; AY198184; AAO47742.1; -.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   InterPro; IPR003234; Mollusc_ins.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   ProDom; PD015667; Mollusc_ins; 1.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Signal.
FT   SIGNAL        1     44       Potential.
FT   CHAIN        45    112       insulin-like growth factor I.
SQ   SEQUENCE   186 AA;  20539 MW;  E9E7F0F3EEB4C3E7 CRC64;

  Query Match             78.7%;  Score 303;  DB 13;  Length 186;
  Best Local Similarity   78.6%;  Pred. No. 1.1e-31;
  Matches   55;  Conservative    7;  Mismatches    6;  Indels    2;  Gaps    1;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||| |||||:|||||:|||||| :|||    ||||||||:||:|||||||
Db         45 GPETLCGAELVDTLQFVCGERGFYFSKPTGYGPNSRR--PRGIVDECCFQSCELRRLEMY 102

Qy         61 CAPLKPAKSA 70
              ||| | :|:|
Db        103 CAPAKTSKAA 112


RESULT 28
O93607
ID   O93607      PRELIMINARY;      PRT;   159 AA.
AC   O93607;
DT   01-NOV-1998 (TrEMBLrel. 08, Created)
DT   01-NOV-1998 (TrEMBLrel. 08, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Preproinsulin-like growth factor Ia.
GN   IGF-I.
OS   Paralichthys olivaceus (Flounder).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Pleuronectiformes;
OC   Pleuronectoidei; Paralichthyidae; Paralichthys.
OX   NCBI_TaxID=8255;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Kim D.S.;
RT   "Expression of IGF-Ib cDNA clone isolated from Paralichthys olivaceus
RT   in mammalian CHO cell line using green fluorescence protein (GFP)
RT   tagging: secretory production of big IGFIb-GFP fusion proteins from
RT   stable transfected CHO cell culture.";
RL   Submitted (AUG-1998) to the EMBL/GenBank/DDBJ databases.
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; AJ010602; CAA09267.1; -.
DR   HSSP; P01343; 2GF1.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
SQ   SEQUENCE   159 AA;  17541 MW;  8B61DC89831E0865 CRC64;

  Query Match             78.4%;  Score 302;  DB 13;  Length 159;
  Best Local Similarity   77.1%;  Pred. No. 1.2e-31;
  Matches   54;  Conservative    9;  Mismatches    5;  Indels    2;  Gaps    1;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||| |||||:|||||:|||||| ::||:   ||||||||:||:|||||||
Db         45 GPETLCGAELVDTLQFVCGERGFYFSKPTGYGPNARRS--RGIVDECCFQSCELRRLEMY 102

Qy         61 CAPLKPAKSA 70
              ||| | :|:|
```

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Db        103 CAPAKTSKAA 112


RESULT 29
O57436
ID   O57436      PRELIMINARY;      PRT;   185 AA.
AC   O57436;
DT   01-JUN-1998 (TrEMBLrel. 06, Created)
DT   01-JUN-1998 (TrEMBLrel. 06, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Insulin-like growth factor I.
GN   IGF-1.
OS   Paralichthys olivaceus (Flounder).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Pleuronectiformes;
OC   Pleuronectoidei; Paralichthyidae; Paralichthys.
OX   NCBI_TaxID=8255;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Kim S.-H., Kim K.-S., Nam T.-J., Lee Y.-C.;
RT   "Molecular cloning and expression of insulin-like growth factor I cDNA
RT   from flounder liver.";
RL   Submitted (AUG-1997) to the EMBL/GenBank/DDBJ databases.
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; AF016922; AAB94052.1; -.
DR   HSSP; P01343; 2GF1.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
SQ   SEQUENCE   185 AA;  20414 MW;  8A898369DF567BB3 CRC64;

  Query Match             78.4%;  Score 302;  DB 13;  Length 185;
  Best Local Similarity   77.1%;  Pred. No. 1.4e-31;
  Matches   54;  Conservative    9;  Mismatches    5;  Indels    2;  Gaps    1;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||| |||||:|||||:|||||| ::||:   ||||||||:||:|||||||
Db         45 GPETLCGAELVDTLQFVCGERGFYFSKPTGYGPNARRS--RGIVDECCFQSCELRRLEMY 102

Qy         61 CAPLKPAKSA 70
              ||| | :|:|
Db        103 CAPAKTSKAA 112


RESULT 30
O93527
ID   O93527      PRELIMINARY;      PRT;   186 AA.
AC   O93527;
DT   01-NOV-1998 (TrEMBLrel. 08, Created)
DT   01-NOV-1998 (TrEMBLrel. 08, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Insulin-like growth factor I.
OS   Paralichthys olivaceus (Flounder).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Pleuronectiformes;
OC   Pleuronectoidei; Paralichthyidae; Paralichthys.
OX   NCBI_TaxID=8255;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RA   Tanaka M.;
RL   Submitted (APR-1998) to the EMBL/GenBank/DDBJ databases.
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; AF061278; AAC62228.1; -.
DR   HSSP; P01343; 2GF1.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
SQ   SEQUENCE   186 AA;  20547 MW;  A501AE548A9EB0FF CRC64;

  Query Match             78.4%;  Score 302;  DB 13;  Length 186;
  Best Local Similarity   77.1%;  Pred. No. 1.5e-31;
  Matches   54;  Conservative    9;  Mismatches    5;  Indels    2;  Gaps    1;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||| |||||:|||||:|||||| ::||:   ||||||||:||:|||||||
Db         45 GPETLCGAELVDTLQFVCGERGFYFSKPTGYGPNARRS--RGIVDECCFQSCELRRLEMY 102

Qy         61 CAPLKPAKSA 70
              ||| | :|:|
Db        103 CAPAKTSKAA 112


RESULT 31
Q7T1A7
ID   Q7T1A7      PRELIMINARY;      PRT;   186 AA.
AC   Q7T1A7;
DT   01-OCT-2003 (TrEMBLrel. 25, Created)
DT   01-OCT-2003 (TrEMBLrel. 25, Last sequence update)
DT   01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE   Insulin-like growth factor I precursor.
GN   IGF-I.
OS   Perca flavescens (Yellow perch).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidei;
OC   Percidae; Perca.
OX   NCBI_TaxID=8167;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RA   Lynn S.G., Shepherd B.S.;
RT   "Cloning of insulin-like growth factor I from yellow perch (Perca
RT   flavescens).";
RL   Submitted (JUN-2003) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AY332492; AAP93861.1; -.
KW   Signal.
FT   SIGNAL       1     44       Potential.
SQ   SEQUENCE   186 AA;  20545 MW;  4CB1028EA95E2D35 CRC64;

  Query Match             78.4%;  Score 302;  DB 13;  Length 186;
  Best Local Similarity   77.1%;  Pred. No. 1.5e-31;
  Matches   54;  Conservative    9;  Mismatches    5;  Indels    2;  Gaps    1;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||| |||||:|||||:|||||| ::||:   ||||||||:||:|||||||
Db         45 GPETLCGAELVDTLQFVCGERGFYFSKPTGYGPNARRS--RGIVDECCFQSCELRRLEMY 102

Qy         61 CAPLKPAKSA 70
              ||| | :|:|
Db        103 CAPAKTSKAA 112


RESULT 32
Q7T107
ID   Q7T107      PRELIMINARY;      PRT;   104 AA.
AC   Q7T107;
DT   01-OCT-2003 (TrEMBLrel. 25, Created)
DT   01-OCT-2003 (TrEMBLrel. 25, Last sequence update)
DT   01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE   Insulin-like growth factor 1 (Fragment).
GN   IGF1.
```

```
OS   Dicentrarchus labrax (European sea bass).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidei;
OC   Moronidae; Dicentrarchus.
OX   NCBI_TaxID=13489;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Gisbert E., Villeneuve L.A.N., Cahu C., Zambonino-Infante J.L.;
RT   "Effect of vitamin A level during the development of sea bass
RT   (Dicentrarchus labrax) larvae.";
RL   Submitted (JUL-2003) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AJ579342; CAE18111.1; -.
FT   NON_TER       1      1
FT   NON_TER     104    104
SQ   SEQUENCE   104 AA;  11339 MW;  5CC569A80B8F6FF2 CRC64;

  Query Match             78.2%;  Score 301;  DB 13;  Length 104;
  Best Local Similarity   77.1%;  Pred. No. 1e-31;
  Matches   54;  Conservative    8;  Mismatches    6;  Indels    2;  Gaps    1;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||| ||||||:|||||:|||||| ::||:   ||||||||:||:|||||||
Db         21 GPETLCGAELVDTLQFVCGERGFYFSKPTGYGPNARRS--RGIVDECCFQSCELRRLEMY 78

Qy         61 CAPLKPAKSA 70
              ||| |  |:|
Db         79 CAPAKTGKAA 88


RESULT 33
Q800N0
ID   Q800N0      PRELIMINARY;      PRT;   108 AA.
AC   Q800N0;
DT   01-JUN-2003 (TrEMBLrel. 24, Created)
DT   01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
DT   01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE   Insulin-like growth factor I (Fragment).
OS   Morone chrysops x Morone saxatilis (White bass x Striped bass).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidei;
OC   Moronidae; Morone.
OX   NCBI_TaxID=45352;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Fruchtman S., Hawkins M.B., Borski R.J.;
RT   "Cloning of IGF-I and the type I IGF receptor cDNAs from temperate
RT   bass species.";
RL   Submitted (JUL-2001) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AF402669; AAO73854.1; -.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   InterPro; IPR003234; Mollusc_ins.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   ProDom; PD015667; Mollusc_ins; 1.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
FT   NON_TER       1      1
FT   NON_TER     108    108
SQ   SEQUENCE   108 AA;  11768 MW;  7B9466A89CC569A8 CRC64;

  Query Match             78.2%;  Score 301;  DB 13;  Length 108;
  Best Local Similarity   77.1%;  Pred. No. 1.1e-31;
  Matches   54;  Conservative    8;  Mismatches    6;  Indels    2;  Gaps    1;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||| ||||||:|||||:|||||| ::||:   ||||||||:||:|||||||
Db         21 GPETLCGAELVDTLQFVCGERGFYFSKPTGYGPNARRS--RGIVDECCFQSCELRRLEMY 78

Qy         61 CAPLKPAKSA 70
              ||| |  |:|
Db         79 CAPAKTGKAA 88


RESULT 34
Q800M9
ID   Q800M9      PRELIMINARY;      PRT;   108 AA.
AC   Q800M9;
DT   01-JUN-2003 (TrEMBLrel. 24, Created)
DT   01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
DT   01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE   Insulin-like growth factor I (Fragment).
OS   Morone saxatilis (Striped bass).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidei;
OC   Moronidae; Morone.
OX   NCBI_TaxID=34816;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Fruchtman S., Hawkins M.B., Borski R.J.;
RT   "Cloning of IGF-I and the type I IGF receptor cDNAs from temperate
RT   bass species.";
RL   Submitted (JUL-2001) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AF402670; AAO73855.1; -.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   InterPro; IPR003234; Mollusc_ins.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   ProDom; PD015667; Mollusc_ins; 1.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
FT   NON_TER       1      1
FT   NON_TER     108    108
SQ   SEQUENCE   108 AA;  11768 MW;  7B9466A89CC569A8 CRC64;

  Query Match             78.2%;  Score 301;  DB 13;  Length 108;
  Best Local Similarity   77.1%;  Pred. No. 1.1e-31;
  Matches   54;  Conservative    8;  Mismatches    6;  Indels    2;  Gaps    1;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||| ||||||:|||||:|||||| ::||:   ||||||||:||:|||||||
Db         21 GPETLCGAELVDTLQFVCGERGFYFSKPTGYGPNARRS--RGIVDECCFQSCELRRLEMY 78

Qy         61 CAPLKPAKSA 70
              ||| |  |:|
Db         79 CAPAKTGKAA 88


RESULT 35
Q800M8
ID   Q800M8      PRELIMINARY;      PRT;   108 AA.
AC   Q800M8;
DT   01-JUN-2003 (TrEMBLrel. 24, Created)
DT   01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
DT   01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE   Insulin-like growth factor I (Fragment).
OS   Morone chrysops (White bass).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidei;
OC   Moronidae; Morone.
OX   NCBI_TaxID=46259;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Fruchtman S., Hawkins M.B., Borski R.J.;
RT   "Cloning of IGF-I and the type I IGF receptor cDNAs from temperate
RT   bass species.";
RL   Submitted (JUL-2001) to the EMBL/GenBank/DDBJ databases.
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```
DR   EMBL; AF402671; AAO73856.1; -.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   InterPro; IPR003234; Mollusc_ins.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   ProDom; PD015667; Mollusc_ins; 1.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
FT   NON_TER       1      1
FT   NON_TER     108    108
SQ   SEQUENCE   108 AA;  11768 MW;  7B9466A89CC569A8 CRC64;

  Query Match             78.2%;  Score 301;  DB 13;  Length 108;
  Best Local Similarity   77.1%;  Pred. No. 1.1e-31;
. Matches   54;  Conservative    8;  Mismatches    6;  Indels    2;  Gaps    1;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||| |||||:|||||:|||||| ::||:   ||||||||:||:|||||||
Db         21 GPETLCGAELVDTLQFVCGERGFYFSKPTGYGPNARRS--RGIVDECCFQSCELRRLEMY 78

Qy         61 CAPLKPAKSA 70
              ||| |  |:|
Db         79 CAPAKTGKAA 88


RESULT 36
Q800M7
ID   Q800M7      PRELIMINARY;      PRT;   108 AA.
AC   Q800M7;
DT   01-JUN-2003 (TrEMBLrel. 24, Created)
DT   01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
DT   01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE   Insulin-like growth factor I (Fragment).
OS   Morone americana (White perch).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidei;
OC   Moronidae; Morone.
OX   NCBI_TaxID=46260;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Fruchtman S., Hawkins M.B., Borski R.J.;
RT   "Cloning of IGF-I and the type I IGF receptor cDNAs from temperate
RT   bass species.";
RL   Submitted (JUL-2001) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AF402672; AAO73857.1; -.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   InterPro; IPR003234; Mollusc_ins.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   ProDom; PD015667; Mollusc_ins; 1.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
FT   NON_TER       1      1
FT   NON_TER     108    108
SQ   SEQUENCE   108 AA;  11768 MW;  7B9466A89CC569A8 CRC64;

  Query Match             78.2%;  Score 301;  DB 13;  Length 108;
  Best Local Similarity   77.1%;  Pred. No. 1.1e-31;
  Matches   54;  Conservative    8;  Mismatches    6;  Indels    2;  Gaps    1;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||| |||||:|||||:|||||| ::||:   ||||||||:||:|||||||
Db         21 GPETLCGAELVDTLQFVCGERGFYFSKPTGYGPNARRS--RGIVDECCFQSCELRRLEMY 78

Qy         61 CAPLKPAKSA 70
              ||| |  |:|
Db         79 CAPAKTGKAA 88


RESULT 37
O73720
ID   O73720      PRELIMINARY;      PRT;   182 AA.
AC   O73720;
DT   01-AUG-1998 (TrEMBLrel. 07, Created)
DT   01-AUG-1998 (TrEMBLrel. 07, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Insulin-like growth factor I.
GN   IGF-I.
OS   Oreochromis mossambicus (Mozambique tilapia) (Tilapia mossambica).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Labroidei;
OC   Cichlidae; Oreochromis.
OX   NCBI_TaxID=8127;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Chen J.-Y., Tsai H.-L., Chang C.-Y., Wang J.-I., Shen S.-C., Wu J.-L.;
RT   "Isolation and characterization of tilapia (Oreochromis mossambicus)
RT   insulin-like growth factors gene and promoter region.";
RL   Submitted (NOV-1997) to the EMBL/GenBank/DDBJ databases.
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; AF033800; AAC17494.1; -.
DR   EMBL; AF033797; AAC17494.1; JOINED.
DR   EMBL; AF033798; AAC17494.1; JOINED.
DR   EMBL; AF033799; AAC17494.1; JOINED.
DR   HSSP; P01343; 2GF1.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
SQ   SEQUENCE   182 AA;  20148 MW;  D51B5BC929BE68FC CRC64;

  Query Match             78.2%;  Score 301;  DB 13;  Length 182;
  Best Local Similarity   79.4%;  Pred. No. 1.9e-31;
  Matches   54;  Conservative    7;  Mismatches    5;  Indels    2;  Gaps    1;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||| |||||:|||||||||||| |:||:   ||||||||:||:|:|||||
Db         45 GPETLCGAELVDTLQFVCGERGFYFNKPTGYGPSARRS--RGIVDECCFQSCELQRLEMY 102

Qy         61 CAPLKPAK 68
              |||:|  |
Db        103 CAPVKTPK 110


RESULT 38
O42289
ID   O42289      PRELIMINARY;      PRT;   182 AA.
AC   O42289;
DT   01-JAN-1998 (TrEMBLrel. 05, Created)
DT   01-JAN-1998 (TrEMBLrel. 05, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Insulin-like growth factor I precursor.
GN   IGF-I.
OS   Oreochromis mossambicus (Mozambique tilapia) (Tilapia mossambica).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Labroidei;
OC   Cichlidae; Oreochromis.
OX   NCBI_TaxID=8127;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Chen J.-Y., Tsai H.-L., Chang C.-Y., Wang J.-I., Shen S.-C., Wu J.-L.;
RT   "Isolation and characterization of tilapia (Oreochromis mossambicus)
```

```
RT   insulin-like growth factors gene and promoter region.";
RL   Submitted (NOV-1997) to the EMBL/GenBank/DDBJ databases.
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; AF033796; AAB86652.1; -.
DR   HSSP; P01343; 2GF1.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Signal.
FT   SIGNAL        1     44       POTENTIAL.
FT   CHAIN        45    182       INSULIN-LIKE GROWTH FACTOR I.
SQ   SEQUENCE   182 AA;  20136 MW;  2F1CE0A3284D6CD1 CRC64;

  Query Match             78.2%;  Score 301;  DB 13;  Length 182;
  Best Local Similarity   79.4%;  Pred. No. 1.9e-31;
  Matches   54;  Conservative    7;  Mismatches    5;  Indels    2;  Gaps    1;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||| |||||:|||||||||||| |:||:   ||||||||:||:|:|||||
Db         45 GPETLCGAELVDTLQFVCGERGFYFNKPTGYGPSARRS--RGIVDECCFQSCELQRLEMY 102

Qy         61 CAPLKPAK 68
              |||:| |
Db        103 CAPVKTPK 110


RESULT 39
P79824
ID   P79824      PRELIMINARY;      PRT;   182 AA.
AC   P79824;
DT   01-MAY-1997 (TrEMBLrel. 03, Created)
DT   01-MAY-1997 (TrEMBLrel. 03, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Prepro insulin-like growth factor I precursor.
OS   Oreochromis mossambicus (Mozambique tilapia) (Tilapia mossambica).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Labroidei;
OC   Cichlidae; Oreochromis.
OX   NCBI_TaxID=8127;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=97418967; PubMed=9275043;
RA   Reinecke M., Schmid A.C., Ermatinger R., Loffing-Cueni D.N.;
RT   "Insulin-like growth factor I in the teleost Oreochromis mossambicus
RT   the Tilapia: Gene sequence, tissue expression and cellular
RT   localization.";
RL   Endocrinology 138:3613-3619(1997).
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; Y10830; CAA71789.1; -.
DR   HSSP; P01343; 2GF1.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Signal.
FT   SIGNAL        1     44       POTENTIAL.
FT   CHAIN        45    182       POTENTIAL.
SQ   SEQUENCE   182 AA;  20208 MW;  DAAB54768CA4C24C CRC64;

  Query Match             78.2%;  Score 301;  DB 13;  Length 182;
  Best Local Similarity   79.4%;  Pred. No. 1.9e-31;
  Matches   54;  Conservative    7;  Mismatches    5;  Indels    2;  Gaps    1;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||| |||||:|||||||||||| |:||:   ||||||||:||:|:|||||
Db         45 GPETLCGAELVDTLQFVCGERGFYFNKPTGYGPSARRS--RGIVDECCFQSCELQRLEMY 102

Qy         61 CAPLKPAK 68
              |||:| |
Db        103 CAPVKTPK 110


RESULT 40
Q9PSX5
ID   Q9PSX5      PRELIMINARY;      PRT;   186 AA.
AC   Q9PSX5;
DT   01-MAY-2000 (TrEMBLrel. 13, Created)
DT   01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Preproinsulin-like growth factor Ib.
GN   IGF-I.
OS   Paralichthys olivaceus (Flounder).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Pleuronectiformes;
OC   Pleuronectoidei; Paralichthyidae; Paralichthys.
OX   NCBI_TaxID=8255;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Kim D.S.;
RT   "Expression of IGF-Ib cDNA clone isolated from Paralichthys olivaceus
RT   in mammalian CHO cell line using green fluorescence protein (GFP)
RT   tagging: secretory production of big IGFIb-GFP fusion proteins from
RT   stable transfected CHO cell culture.";
RL   Submitted (AUG-1998) to the EMBL/GenBank/DDBJ databases.
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; AJ010603; CAA09268.1; -.
DR   HSSP; P01343; 2GF1.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
SQ   SEQUENCE   186 AA;  20529 MW;  479D12CEA95E3D75 CRC64;

  Query Match             76.6%;  Score 295;  DB 13;  Length 186;
  Best Local Similarity   75.7%;  Pred. No. 1.2e-30;
  Matches   53;  Conservative    9;  Mismatches    6;  Indels    2;  Gaps    1;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||| |||||:|||||:|||||| ::||:   ||||||||:||:|||||||
Db         45 GPETLCGAELVDTPQFVCGERGFYFSKPTGYGPNARRS--RGIVDECCFQSCELRRLEMY 102

Qy         61 CAPLKPAKSA 70
              ||| | :|:|
Db        103 CAPAKTSKAA 112


Search completed: February 25, 2004, 06:24:30
Job time : 39.8102 secs
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GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: February 25, 2004, 06:18:42 ; Search time 10.7299 Seconds
(without alignments)
339.696 Million cell updates/sec

Title: US-10-066-009A-1
Perfect score: 385
Sequence: 1 GPETLCGAELVDALQFVCGD.....SCDLRRLEMYCAPLKPAKSA 70

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 141681 seqs, 52070155 residues

Total number of hits satisfying chosen parameters: 141681

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : SwissProt_42:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	385	100.0	122	1	IGF1_CANFA	P33712 canis famil
2	385	100.0	122	1	IGF1_HORSE	P51458 equus cabal
3	385	100.0	130	1	IGF1_CAVPO	P17647 cavia porce
4	385	100.0	153	1	IGF1_PIG	P16545 sus scrofa
5	385	100.0	153	1	IGFA_HUMAN	P01343 homo sapien
6	385	100.0	154	1	IGF1_BOVIN	P07455 bos taurus
7	385	100.0	195	1	IGFB_HUMAN	P05019 homo sapien
8	382	99.2	81	1	IGF1_SUNMU	Q28933 suncus muri
9	382	99.2	143	1	IGF1_RABIT	Q95222 oryctolagus
10	381	99.0	154	1	IGF1_CAPHI	P51457 capra hircu
11	377	97.9	154	1	IGF1_SHEEP	P10763 ovis aries
12	368	95.6	153	1	IGFA_RAT	P08025 rattus norv
13	368	95.6	181	1	IGFB_RAT	P08024 rattus norv
14	365	94.8	127	1	IGFA_MOUSE	P05017 mus musculu
15	365	94.8	133	1	IGFB_MOUSE	P05018 mus musculu
16	344	89.4	124	1	IGF1_COTJA	P51462 coturnix co
17	344	89.4	153	1	IGF1_CHICK	P18254 gallus gall
18	334	86.8	153	1	IGF1_XENLA	P16501 xenopus lae
19	326	84.7	161	1	IGFA_CYPCA	Q90325 cyprinus ca
20	326	84.7	161	1	IGFB_CYPCA	Q90326 cyprinus ca
21	318	82.6	176	1	IGF1_ONCKI	P17085 oncorhynchu
22	318	82.6	176	1	IGF1_ONCMY	Q02815 oncorhynchu
23	248.5	64.5	214	1	IGF2_ONCMY	Q02816 oncorhynchu
24	224.5	58.3	129	1	IGF2_MUSVI	P41694 mustela vis
25	223	57.9	128	1	IGF2_CAVPO	Q08279 cavia porce
26	223	57.9	180	1	IGF2_HUMAN	P01344 homo sapien
27	222	57.7	66	1	IGF2_CHICK	P33717 gallus gall
28	222	57.7	155	1	IGF2_BOVIN	P07456 bos taurus
29	222	57.7	179	1	IGF2_SHEEP	P10764 ovis aries
30	220.5	57.3	180	1	IGF2_MOUSE	P09535 mus musculu
31	220	57.1	181	1	IGF2_HORSE	P51459 equus cabal
32	220	57.1	181	1	IGF2_PIG	P23695 sus scrofa
33	218	56.6	180	1	IGF2_RAT	P01346 rattus norv
34	206.5	53.6	139	1	IGF_MYXGL	P22618 myxine glut
35	159.5	41.4	50	1	INS_MYOSC	P07453 myoxocephal
36	158.5	41.2	51	1	INS_GADCA	P01336 gadus calla
37	155.5	40.4	51	1	INS1_BATSP	P01337 batrachoidi
38	154	40.0	50	1	INS2_BATSP	P01338 batrachoidi
39	151	39.2	59	1	INS_HYDCO	P09536 hydrolagus
40	149	38.7	51	1	INS_CHIBR	P01327 chinchilla
41	149	38.7	51	1	INS_ZAODH	P12708 zaocys dhum
42	148	38.4	51	1	INS_ALLMI	P12703 alligator m
43	146.5	38.1	51	1	INS2_THUTH	P01339 thunnus thy
44	146	37.9	51	1	INS_ANSAN	P07454 anser anser
45	146	37.9	51	1	INS_CROAT	P01334 crotalus at

ALIGNMENTS

RESULT 1
IGF1_CANFA
ID IGF1_CANFA STANDARD; PRT; 122 AA.
AC P33712;
DT 01-FEB-1994 (Rel. 28, Created)
DT 01-FEB-1994 (Rel. 28, Last sequence update)
DT 10-OCT-2003 (Rel. 42, Last annotation update)
DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin)
DE (Fragment).
GN IGF1 OR IGFIA.
OS Canis familiaris (Dog).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
OX NCBI_TaxID=9615;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=93366192; PubMed=8359700;
RA Delafontaine P., Lou H., Harrison D.G., Bernstein K.E.;
RT "Sequence of a cDNA encoding dog insulin-like growth factor I.";
RL Gene 130:305-306(1993).
CC -!- FUNCTION: The insulin-like growth factors, isolated from plasma,
CC are structurally and functionally related to insulin but have a
CC much higher growth-promoting activity.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: Belongs to the insulin family.
CC ---

CC ---
DR EMBL; L08254; -; NOT_ANNOTATED_CDS.
DR PIR; PN0622; PN0622.
DR HSSP; P01343; 1GF1.
DR InterPro; IPR004825; Ins/IGF/relax.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00277; INSULINB.
DR SMART; SM00078; IlGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
KW Insulin family; Growth factor; Plasma; Signal.
FT NON_TER 1 1
FT SIGNAL <1 19 BY SIMILARITY.
FT CHAIN 20 89 INSULIN-LIKE GROWTH FACTOR I.
FT DOMAIN 20 48 B.
FT DOMAIN 49 60 C.
FT DOMAIN 61 81 A.
FT DOMAIN 82 89 D.
FT PROPEP 90 122 E PEPTIDE.
FT DISULFID 25 67 BY SIMILARITY.
FT DISULFID 37 80 BY SIMILARITY.
FT DISULFID 66 71 BY SIMILARITY.
SQ SEQUENCE 122 AA; 13407 MW; 036A004DC44E7D75 CRC64;

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  Query Match             100.0%;  Score 385;  DB 1;  Length 122;
  Best Local Similarity   100.0%;  Pred. No. 1.4e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         20 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 79

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         80 CAPLKPAKSA 89


RESULT 2
IGF1_HORSE
ID   IGF1_HORSE     STANDARD;      PRT;   122 AA.
AC   P51458;
DT   01-OCT-1996 (Rel. 34, Created)
DT   01-OCT-1996 (Rel. 34, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor I precursor (IGF-I) (Somatomedin)
DE   (Fragment).
GN   IGF1.
OS   Equus caballus (Horse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Perissodactyla; Equidae; Equus.
OX   NCBI_TaxID=9796;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=97013467; PubMed=8860303;
RA   Otte K., Rozell B., Gessbo A., Engstrom W.;
RT   "Cloning and sequencing of an equine insulin-like growth factor I
RT   cDNA and its expression in fetal and adult tissues.";
RL   Gen. Comp. Endocrinol. 102:11-15(1996).
CC   -!- FUNCTION: The insulin-like growth factors, isolated from plasma,
CC       are structurally and functionally related to insulin but have a
CC       much higher growth-promoting activity.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
CC   This SWISS-PROT entry is copyright. It is produced through a collaboration
CC   between  the Swiss Institute of Bioinformatics  and the  EMBL outstation -
CC   the European Bioinformatics Institute.  There are no  restrictions on  its
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; U28070; AAA68952.1; -.
DR   HSSP; P01343; 1GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma; Signal.
FT   SIGNAL        1      ?
FT   PROPEP        ?     48       BY SIMILARITY.
FT   CHAIN        49    118       INSULIN-LIKE GROWTH FACTOR I.
FT   DOMAIN       49     77       B.
FT   DOMAIN       78     89       C.
FT   DOMAIN       90    110       A.
FT   DOMAIN      111    118       D.
FT   PROPEP      119   >122       E PEPTIDE.
FT   DISULFID     54     96       BY SIMILARITY.
FT   DISULFID     66    109       BY SIMILARITY.
FT   DISULFID     95    100       BY SIMILARITY.
FT   NON_TER     122    122
SQ   SEQUENCE   122 AA;  13501 MW;  5A935B334435C9F9 CRC64;

  Query Match             100.0%;  Score 385;  DB 1;  Length 122;
  Best Local Similarity   100.0%;  Pred. No. 1.4e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db        109 CAPLKPAKSA 118


RESULT 3
IGF1_CAVPO
ID   IGF1_CAVPO     STANDARD;      PRT;   130 AA.
AC   P17647;
DT   01-AUG-1990 (Rel. 15, Created)
DT   01-AUG-1990 (Rel. 15, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN   IGF1.
OS   Cavia porcellus (Guinea pig).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Hystricognathi; Caviidae; Cavia.
OX   NCBI_TaxID=10141;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Pancreas;
RX   MEDLINE=90332447; PubMed=2377480;
RA   Bell G.I., Stempien M.M., Fong N.M., Scino S.;
RT   "Sequence of a cDNA encoding guinea pig IGF-I.";
RL   Nucleic Acids Res. 18:4275-4275(1990).
CC   -!- FUNCTION: The insulin-like growth factors, isolated from plasma,
CC       are structurally and functionally related to insulin but have a
CC       much higher growth-promoting activity.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
CC   This SWISS-PROT entry is copyright. It is produced through a collaboration
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CC   modified and this statement is not removed.  Usage  by  and for commercial
CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; X52951; CAA37127.1; -.
DR   PIR; S12719; IGGP1.
DR   HSSP; P01343; 1GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma; Signal.
FT   SIGNAL        1      25
FT   CHAIN        26      95       INSULIN-LIKE GROWTH FACTOR I.
FT   DOMAIN       26      54       B.
FT   DOMAIN       55      66       C.
FT   DOMAIN       67      87       A.
FT   DOMAIN       88      95       D.
FT   PROPEP       96     130       E PEPTIDE.
FT   DISULFID     31      73       BY SIMILARITY.
FT   DISULFID     43      86       BY SIMILARITY.
FT   DISULFID     72      77       BY SIMILARITY.
SQ   SEQUENCE   130 AA;  14342 MW;  251B20AEDC5729FF CRC64;

  Query Match             100.0%;  Score 385;  DB 1;  Length 130;
  Best Local Similarity   100.0%;  Pred. No. 1.5e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         26 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 85
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Qy          61 CAPLKPAKSA 70
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Db          86 CAPLKPAKSA 95


RESULT 4
IGF1_PIG
ID   IGF1_PIG       STANDARD;      PRT;   153 AA.
AC   P16545;
DT   01-AUG-1990 (Rel. 15, Created)
DT   01-AUG-1990 (Rel. 15, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN   IGF1.
OS   Sus scrofa (Pig).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
OX   NCBI_TaxID=9823;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=90221822; PubMed=2326169;
RA   Mueller M., Brem G.;
RT   "Nucleotide sequence of porcine insulin-like growth factor. 1:5'
RT   untranslated region, exons 1 and 2 and mRNA.";
RL   Nucleic Acids Res. 18:364-364(1990).
RN   [2]
RP   SEQUENCE OF 20-153 FROM N.A.
RX   MEDLINE=89096956; PubMed=3211153;
RA   Tavakkol A., Simmen F.A., Simmen R.C.M.;
RT   "Porcine insulin-like growth factor-I (pIGF-I): complementary
RT   deoxyribonucleic acid cloning and uterine expression of messenger
RT   ribonucleic acid encoding evolutionarily conserved IGF-I peptides.";
RL   Mol. Endocrinol. 2:674-681(1988).
RN   [3]
RP   SEQUENCE OF 1-21 FROM N.A.
RC   STRAIN=White Landrace; TISSUE=Liver;
RX   MEDLINE=94128209; PubMed=8297476;
RA   Weller P.A., Dickson M.C., Huskisson N.S., Dauncey M.J., Buttery P.J.,
RA   Gilmour R.S.;
RT   "The porcine insulin-like growth factor-I gene: characterization and
RT   expression of alternate transcription sites.";
RL   J. Mol. Endocrinol. 11:201-211(1993).
CC   -!- FUNCTION: The insulin-like growth factors, isolated from plasma,
CC       are structurally and functionally related to insulin but have a
CC       much higher growth-promoting activity.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; X17492; CAA35527.1; -.
DR   EMBL; X52388; CAA36617.1; -.
DR   EMBL; X52077; CAA36296.1; -.
DR   EMBL; M31175; AAA31043.1; ALT_INIT.
DR   EMBL; X17638; CAA35632.1; -.
DR   PIR; S12825; S12825.
DR   HSSP; P01343; 1GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma; Signal.
FT   SIGNAL        1      ?
FT   PROPEP        ?     48
FT   CHAIN        49    118       INSULIN-LIKE GROWTH FACTOR I.
FT   DOMAIN       49     77       B.
FT   DOMAIN       78     89       C.
FT   DOMAIN       90    110       A.
FT   DOMAIN      111    118       D.
FT   PROPEP      119    153       E PEPTIDE.
FT   DISULFID     54     96       BY SIMILARITY.
FT   DISULFID     66    109       BY SIMILARITY.
FT   DISULFID     95    100       BY SIMILARITY.
SQ   SEQUENCE   153 AA;  17010 MW;  6098792DCDA0CD7D CRC64;

  Query Match            100.0%;  Score 385;  DB 1;  Length 153;
  Best Local Similarity  100.0%;  Pred. No. 1.8e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy           1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy          61 CAPLKPAKSA 70
               ||||||||||
Db         109 CAPLKPAKSA 118


RESULT 5
IGFA_HUMAN
ID   IGFA_HUMAN     STANDARD;      PRT;   153 AA.
AC   P01343;
DT   21-JUL-1986 (Rel. 01, Created)
DT   13-AUG-1987 (Rel. 05, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor IA precursor (IGF-IA) (Somatomedin C).
GN   IGF1 OR IBP1.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=86168194; PubMed=2937782;
RA   Rotwein P., Pollock K.M., Didier D.K., Krivi G.G.;
RT   "Organization and sequence of the human insulin-like growth factor I
RT   gene. Alternative RNA processing produces two insulin-like growth
RT   factor I precursor peptides.";
RL   J. Biol. Chem. 261:4828-4832(1986).
RN   [2]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=84068210; PubMed=6358902;
RA   Jansen M., van Schaik F.M.A., Ricker A.T., Bullock B., Woods D.E.,
RA   Gabbay K.H., Nussbaum A.L., Sussenbach J.S., van den Brande J.L.;
RT   "Sequence of cDNA encoding human insulin-like growth factor I
RT   precursor.";
RL   Nature 306:609-611(1983).
RN   [3]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=86108910; PubMed=2935423;
RA   le Bouc Y., Dreyer D., Jaeger F., Binoux M., Sondermeyer P.;
RT   "Complete characterization of the human IGF-I nucleotide sequence
RT   isolated from a newly constructed adult liver cDNA library.";
RL   FEBS Lett. 196:108-112(1986).
RN   [4]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=86108862; PubMed=3002851;
RA   de Pagter-Holthuizen P., van Schaik F.M.A., Verduijn G.M.,
RA   van Ommen G.J.B., Bouma B.N., Jansen M., Sussenbach J.S.;
RT   "Organization of the human genes for insulin-like growth factors I
RT   and II.";
RL   FEBS Lett. 195:179-184(1986).
RN   [5]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=91207342; PubMed=2018498;
RA   Steenbergh P.H., Koonen-Reemst A.M.C.B., Cleutjens C.B.J.M.,
RA   Sussenbach J.S.;
```

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RT   "Complete nucleotide sequence of the high molecular weight human
RT   IGF-I mRNA.";
RL   Biochem. Biophys. Res. Commun. 175:507-514(1991).
RN   [6]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Brain;
RX   MEDLINE=92186627; PubMed=1372070;
RA   Sandberg Nordqvist A.C., Stahlbom P.A., Lake M., Sara V.R.;
RT   "Characterization of two cDNAs encoding insulin-like growth factor 1
RT   (IGF-1) in the human fetal brain.";
RL   Brain Res. Mol. Brain Res. 12:275-277(1992).
RN   [7]
RP   SEQUENCE OF 24-50 AND 119-153 FROM N.A.
RX   MEDLINE=84295593; PubMed=6382022;
RA   Dull T.J., Gray A., Hayflick J.S., Ullrich A.;
RT   "Insulin-like growth factor II precursor gene organization in
RT   relation to insulin gene family.";
RL   Nature 310:777-781(1984).
RN   [8]
RP   SEQUENCE OF 49-118.
RX   MEDLINE=78130171; PubMed=632300;
RA   Rinderknecht E., Humbel R.E.;
RT   "The amino acid sequence of human insulin-like growth factor I and
RT   its structural homology with proinsulin.";
RL   J. Biol. Chem. 253:2769-2776(1978).
RN   [9]
RP   3D-STRUCTURE MODELING.
RX   MEDLINE=83210259; PubMed=6189745;
RA   Blundell T.L., Bedarkar S., Humbel R.E.;
RT   "Tertiary structures, receptor binding, and antigenicity of
RT   insulinlike growth factors.";
RL   Fed. Proc. 42:2592-2597(1983).
RN   [10]
RP   STRUCTURE BY NMR.
RX   MEDLINE=91242464; PubMed=2036417;
RA   Cooke R.M., Harvey T.S., Campbell I.D.;
RT   "Solution structure of human insulin-like growth factor 1: a nuclear
RT   magnetic resonance and restrained molecular dynamics study.";
RL   Biochemistry 30:5484-5491(1991).
RN   [11]
RP   STRUCTURE BY NMR.
RX   MEDLINE=92316903; PubMed=1319992;
RA   Sato A., Nishimura S., Ohkubo T., Kyogoku Y., Koyama S., Kobayashi M.,
RA   Yasuda T., Kobayashi Y.;
RT   "1H-NMR assignment and secondary structure of human insulin-like
RT   growth factor-I (IGF-I) in solution.";
RL   J. Biochem. 111:529-536(1992).
RN   [12]
RP   DISULFIDE BONDS.
RX   MEDLINE=89207850; PubMed=3242681;
RA   Raschdorf F., Dahinden R., Maerki W., Richter W.J., Merryweather J.P.;
RT   "Location of disulphide bonds in human insulin-like growth factors
RT   (IGFs) synthesized by recombinant DNA technology.";
RL   Biomed. Environ. Mass Spectrom. 16:3-8(1988).
CC   -!- FUNCTION: The insulin-like growth factors, isolated from plasma,
CC       are structurally and functionally related to insulin but have a
CC       much higher growth-promoting activity.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- ALTERNATIVE PRODUCTS:
CC       Event=Alternative splicing; Named isoforms=2;
CC       Name=IGF-IA;
CC         IsoId=P01343-1; Sequence=Displayed;
CC       Name=IGF-IB;
CC         IsoId=P05019-1; Sequence=External;
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; M14156; AAA52538.1; -.
DR   EMBL; M12659; AAA52538.1; JOINED.
DR   EMBL; M14153; AAA52538.1; JOINED.
DR   EMBL; M14154; AAA52538.1; JOINED.
DR   EMBL; X00173; CAA24998.1; -.
DR   EMBL; X03563; CAA27250.1; ALT_SEQ.
DR   EMBL; M27544; AAA52787.1; -.
DR   EMBL; X03420; CAA27152.1; -.
DR   EMBL; X03421; CAA27153.1; -.
DR   EMBL; X03422; CAA27154.1; -.
DR   EMBL; X57025; CAA40342.1; -.
DR   EMBL; X56773; CAA40092.1; -.
DR   PIR; A92581; IGHU1.
DR   PDB; 1GF1; 15-OCT-94.
DR   PDB; 2GF1; 15-APR-93.
DR   PDB; 3GF1; 15-APR-93.
DR   PDB; 1B9G; 23-FEB-99.
DR   PDB; 1GZR; 02-OCT-02.
DR   PDB; 1GZY; 02-OCT-02.
DR   PDB; 1GZZ; 25-JUL-02.
DR   PDB; 1H02; 25-JUL-02.
DR   PDB; 1H59; 16-MAY-02.
DR   PDB; 1IMX; 03-OCT-01.
DR   Genew; HGNC:5464; IGF1.
DR   MIM; 147440; -.
DR   MIM; 265850; -.
DR   GO; GO:0005159; F:insulin-like growth factor receptor binding; TAS.
DR   GO; GO:0005180; F:peptide hormone; TAS.
DR   GO; GO:0006928; P:cell motility; TAS.
DR   GO; GO:0006260; P:DNA replication; TAS.
DR   GO; GO:0009441; P:glycolate metabolism; TAS.
DR   GO; GO:0007517; P:muscle development; TAS.
DR   GO; GO:0008284; P:positive regulation of cell proliferation; TAS.
DR   GO; GO:0007265; P:RAS protein signal transduction; TAS.
DR   GO; GO:0007165; P:signal transduction; TAS.
DR   GO; GO:0001501; P:skeletal development; TAS.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma; 3D-structure;
KW   Alternative splicing; Signal.
FT   SIGNAL       1     21       POTENTIAL.
FT   PROPEP      22     48
FT   CHAIN       49    118       INSULIN-LIKE GROWTH FACTOR IA.
FT   DOMAIN      49     77       B.
FT   DOMAIN      78     89       C.
FT   DOMAIN      90    110       A.
FT   DOMAIN     111    118       D.
FT   PROPEP     119    153       E PEPTIDE.
FT   DISULFID    54     96
FT   DISULFID    66    109
FT   DISULFID    95    100
FT   STRAND      51     51
FT   TURN        55     55
FT   HELIX       56     69
FT   TURN        87     88
FT   HELIX       91     95
FT   TURN        96     97
FT   STRAND      99     99
FT   HELIX      106    109
SQ   SEQUENCE   153 AA;  17026 MW;  C6ECD92DCA9B37BC CRC64;

  Query Match             100.0%;  Score 385;  DB 1;  Length 153;
  Best Local Similarity   100.0%;  Pred. No. 1.8e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 108
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Qy          61 CAPLKPAKSA 70
               ||||||||||
Db         109 CAPLKPAKSA 118


RESULT 6
IGF1_BOVIN
ID   IGF1_BOVIN     STANDARD;      PRT;   154 AA.
AC   P07455;
DT   01-APR-1988 (Rel. 07, Created)
DT   01-NOV-1991 (Rel. 20, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN   IGF1.
OS   Bos taurus (Bovine).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
OC   Bovidae; Bovinae; Bos.
OX   NCBI_TaxID=9913;
RN   [1]
RP   SEQUENCE OF 2-154 FROM N.A.
RX   MEDLINE=90175014; PubMed=2308858;
RA   Fotsis T., Murphy C., Gannon F.;
RT   "Nucleotide sequence of the bovine insulin-like growth factor 1
RT   (IGF-1) and its IGF-1A precursor.";
RL   Nucleic Acids Res. 18:676-676(1990).
RN   [2]
RP   SEQUENCE OF 50-119 FROM N.A.
RX   MEDLINE=95172127; PubMed=7867698;
RA   Schmidt A., Einspanier R., Amselgruber W., Sinowatz F., Schams D.;
RT   "Expression of insulin-like growth factor 1 (IGF-1) in the bovine
RT   oviduct during the oestrous cycle.";
RL   Exp. Clin. Endocrinol. 102:364-369(1994).
RN   [3]
RP   SEQUENCE OF 50-119.
RX   MEDLINE=86085881; PubMed=3941093;
RA   Honegger A., Humbel R.E.;
RT   "Insulin-like growth factors I and II in fetal and adult bovine
RT   serum. Purification, primary structures, and immunological
RT   cross-reactivities.";
RL   J. Biol. Chem. 261:569-575(1986).
RN   [4]
RP   SEQUENCE OF 50-119.
RX   MEDLINE=88268820; PubMed=3390164;
RA   Francis G.L., Upton F.M., Ballard F.J., McNeil K.A., Wallace J.C.;
RT   "Insulin-like growth factors 1 and 2 in bovine colostrum. Sequences
RT   and biological activities compared with those of a potent truncated
RT   form.";
RL   Biochem. J. 251:95-103(1988).
CC   -!- FUNCTION: The insulin-like growth factors, isolated from plasma,
CC       are structurally and functionally related to insulin but have a
CC       much higher growth-promoting activity.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; X15726; CAA33746.1; -.
DR   EMBL; S76122; AAD14209.1; -.
DR   PIR; S12672; IGBO1.
DR   HSSP; P01343; 1GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma; Signal.
FT   SIGNAL        1      ?
FT   PROPEP        ?     49
FT   CHAIN        50    119       INSULIN-LIKE GROWTH FACTOR I.
FT   DOMAIN       50     78       B.
FT   DOMAIN       79     90       C.
FT   DOMAIN       91    111       A.
FT   DOMAIN      112    119       D.
FT   PROPEP      120    154       E PEPTIDE.
FT   DISULFID     55     97       BY SIMILARITY.
FT   DISULFID     67    110       BY SIMILARITY.
FT   DISULFID     96    101       BY SIMILARITY.
SQ   SEQUENCE   154 AA;  17066 MW;  64201B6AF3140999 CRC64;

  Query Match             100.0%;  Score 385;  DB 1;  Length 154;
  Best Local Similarity   100.0%;  Pred. No. 1.8e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy           1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          50 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 109

Qy          61 CAPLKPAKSA 70
               ||||||||||
Db         110 CAPLKPAKSA 119


RESULT 7
IGFB_HUMAN
ID   IGFB_HUMAN     STANDARD;      PRT;   195 AA.
AC   P05019;
DT   13-AUG-1987 (Rel. 05, Created)
DT   13-AUG-1987 (Rel. 05, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor IB precursor (IGF-IB) (Somatomedin C).
GN   IGF1 OR IBP1.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=86168194; PubMed=2937782;
RA   Rotwein P., Pollock K.M., Didier D.K., Krivi G.G.;
RT   "Organization and sequence of the human insulin-like growth factor I
RT   gene. Alternative RNA processing produces two insulin-like growth
RT   factor I precursor peptides.";
RL   J. Biol. Chem. 261:4828-4832(1986).
RN   [2]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=86094355; PubMed=3455760;
RA   Rotwein P.;
RT   "Two insulin-like growth factor I messenger RNAs are expressed in
RT   human liver.";
RL   Proc. Natl. Acad. Sci. U.S.A. 83:77-81(1986).
RN   [3]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=86108862; PubMed=3002851;
RA   de Pagter-Holthuizen P., van Schaik F.M.A., Verduijn G.M.,
RA   van Ommen G.J.B., Bouma B.N., Jansen M., Sussenbach J.S.;
RT   "Organization of the human genes for insulin-like growth factors I
RT   and II.";
RL   FEBS Lett. 195:179-184(1986).
RN   [4]
RP   SEQUENCE OF 22-50 FROM N.A.
RX   MEDLINE=84295593; PubMed=6382022;
RA   Dull T.J., Gray A., Hayflick J.S., Ullrich A.;
RT   "Insulin-like growth factor II precursor gene organization in
RT   relation to insulin gene family.";
RL   Nature 310:777-781(1984).
RN   [5]
RP   SEQUENCE OF 49-118.
RX   MEDLINE=78130171; PubMed=632300;
RA   Rinderknecht E., Humbel R.E.;
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RT   "The amino acid sequence of human insulin-like growth factor I and
RT   its structural homology with proinsulin.";
RL   J. Biol. Chem. 253:2769-2776(1978).
RN   [6]
RP   3D-STRUCTURE MODELING.
RX   MEDLINE=83210259; PubMed=6189745;
RA   Blundell T.L., Bedarkar S., Humbel R.E.;
RT   "Tertiary structures, receptor binding, and antigenicity of
RT   insulinlike growth factors.";
RL   Fed. Proc. 42:2592-2597(1983).
RN   [7]
RP   STRUCTURE BY NMR.
RX   MEDLINE=91242464; PubMed=2036417;
RA   Cooke R.M., Harvey T.S., Campbell I.D.;
RT   "Solution structure of human insulin-like growth factor 1: a nuclear
RT   magnetic resonance and restrained molecular dynamics study.";
RL   Biochemistry 30:5484-5491(1991).
RN   [8]
RP   STRUCTURE BY NMR.
RX   MEDLINE=92316903; PubMed=1319992;
RA   Sato A., Nishimura S., Ohkubo T., Kyogoku Y., Koyama S., Kobayashi M.,
RA   Yasuda T., Kobayashi Y.;
RT   "1H-NMR assignment and secondary structure of human insulin-like
RT   growth factor-I (IGF-I) in solution.";
RL   J. Biochem. 111:529-536(1992).
RN   [9]
RP   DISULFIDE BONDS.
RX   MEDLINE=89207850; PubMed=3242681;
RA   Raschdorf F., Dahinden R., Maerki W., Richter W.J., Merryweather J.P.;
RT   "Location of disulphide bonds in human insulin-like growth factors
RT   (IGFs) synthesized by recombinant DNA technology.";
RL   Biomed. Environ. Mass Spectrom. 16:3-8(1988).
RN   [10]
RP   VARIANT ASP-187.
RX   MEDLINE=99318093; PubMed=10391209;
RA   Cargill M., Altshuler D., Ireland J., Sklar P., Ardlie K., Patil N.,
RA   Shaw N., Lane C.R., Lim E.P., Kalyanaraman N., Nemesh J., Ziaugra L.,
RA   Friedland L., Rolfe A., Warrington J., Lipshutz R., Daley G.Q.,
RA   Lander E.S.;
RT   "Characterization of single-nucleotide polymorphisms in coding regions
RT   of human genes.";
RL   Nat. Genet. 22:231-238(1999).
RN   [11]
RP   ERRATUM.
RA   Cargill M., Altshuler D., Ireland J., Sklar P., Ardlie K., Patil N.,
RA   Shaw N., Lane C.R., Lim E.P., Kalyanaraman N., Nemesh J., Ziaugra L.,
RA   Friedland L., Rolfe A., Warrington J., Lipshutz R., Daley G.Q.,
RA   Lander E.S.;
RL   Nat. Genet. 23:373-373(1999).
CC   -!- FUNCTION: The insulin-like growth factors, isolated from plasma,
CC       are structurally and functionally related to insulin but have a
CC       much higher growth-promoting activity.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- ALTERNATIVE PRODUCTS:
CC       Event=Alternative splicing; Named isoforms=2;
CC       Name=IGF-IB;
CC         IsoId=P05019-1; Sequence=Displayed;
CC       Name=IGF-IA;
CC         IsoId=P01343-1; Sequence=External;
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; M14155; AAA52537.1; -.
DR   EMBL; M12659; AAA52537.1; JOINED.
DR   EMBL; M14153; AAA52537.1; JOINED.
DR   EMBL; M14154; AAA52537.1; JOINED.
DR   EMBL; M11568; AAA52539.1; -.
DR   EMBL; X03563; CAA27250.1; ALT_SEQ.
DR   EMBL; X03420; CAA27152.1; -.
DR   EMBL; X03421; CAA27153.1; -.
DR   EMBL; X03422; CAA27154.1; -.
DR   PIR; A01611; IGHU1B.
DR   PDB; 1GF1; 15-OCT-94.
DR   PDB; 2GF1; 15-APR-93.
DR   PDB; 3GF1; 15-APR-93.
DR   PDB; 1BQT; 18-MAY-99.
DR   Genew; HGNC:5464; IGF1.
DR   MIM; 147440; -.
DR   MIM; 265850; -.
DR   GO; GO:0005159; F:insulin-like growth factor receptor binding; TAS.
DR   GO; GO:0005180; F:peptide hormone; TAS.
DR   GO; GO:0006928; P:cell motility; TAS.
DR   GO; GO:0006260; P:DNA replication; TAS.
DR   GO; GO:0009441; P:glycolate metabolism; TAS.
DR   GO; GO:0007517; P:muscle development; TAS.
DR   GO; GO:0008284; P:positive regulation of cell proliferation; TAS.
DR   GO; GO:0007265; P:RAS protein signal transduction; TAS.
DR   GO; GO:0007165; P:signal transduction; TAS.
DR   GO; GO:0001501; P:skeletal development; TAS.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; 3D-structure; Plasma;
KW   Alternative splicing; Signal; Polymorphism.
FT   SIGNAL        1     21       POTENTIAL.
FT   PROPEP       22     48
FT   CHAIN        49    118       INSULIN-LIKE GROWTH FACTOR IB.
FT   DOMAIN       49     77       B.
FT   DOMAIN       78     89       C.
FT   DOMAIN       90    110       A.
FT   DOMAIN      111    118       D.
FT   PROPEP      119    195       E PEPTIDE.
FT   DISULFID     54     96
FT   DISULFID     66    109
FT   DISULFID     95    100
FT   VARIANT     187    187       A -> D (in dbSNP:6213).
FT                                /FTId=VAR_013945.
FT   STRAND       51     51
FT   TURN         55     55
FT   HELIX        56     69
FT   TURN         87     88
FT   HELIX        91     95
FT   TURN         96     97
FT   STRAND       99     99
FT   HELIX       106    109
SQ   SEQUENCE   195 AA;  21841 MW;  E88A8CFBD1CD1873 CRC64;

  Query Match             100.0%;  Score 385;  DB 1;  Length 195;
  Best Local Similarity   100.0%;  Pred. No. 2.4e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db        109 CAPLKPAKSA 118


RESULT 8
IGF1_SUNMU
ID   IGF1_SUNMU     STANDARD;      PRT;    81 AA.
AC   Q28933;
DT   16-OCT-2001 (Rel. 40, Created)
DT   16-OCT-2001 (Rel. 40, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
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DE   Insulin-like growth factor I precursor (IGF-I) (Somatomedin)
DE   (Fragment).
GN   IGF1.
OS   Suncus murinus (House shrew) (Musk shrew).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Insectivora; Soricidae; Crocidurinae; Suncus.
OX   NCBI_TaxID=9378;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=BAN, and NAG; TISSUE=Liver;
RA   Ishikawa A.;
RT   "Partial sequence of a IGF-I cDNA in the musk shrew, Suncus murinus.";
RL   Submitted (DEC-1994) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: The insulin-like growth factors, isolated from plasma,
CC       are structurally and functionally related to insulin but have a
CC       much higher growth-promoting activity.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; D43957; BAA07897.1; -.
DR   HSSP; P01343; 1GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00276; INSULINA.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma.
FT   NON_TER       1      1
FT   PROPEP       <1      4       BY SIMILARITY.
FT   CHAIN         5     74       INSULIN-LIKE GROWTH FACTOR I.
FT   DOMAIN        5     33       B.
FT   DOMAIN       34     45       C.
FT   DOMAIN       46     66       A.
FT   DOMAIN       67     74       D.
FT   PROPEP       75    >81       E PEPTIDE.
FT   DISULFID     10     52       BY SIMILARITY.
FT   DISULFID     22     65       BY SIMILARITY.
FT   DISULFID     51     56       BY SIMILARITY.
FT   NON_TER      81     81
SQ   SEQUENCE   81 AA;  8869 MW;  AC2C40972D05E3C4 CRC64;

  Query Match             99.2%;  Score 382;  DB 1;  Length 81;
  Best Local Similarity   98.6%;  Pred. No. 2.2e-40;
  Matches   69;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          5 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 64

Qy         61 CAPLKPAKSA 70
              ||||||||:|
Db         65 CAPLKPAKAA 74


RESULT 9
IGF1_RABIT
ID   IGF1_RABIT     STANDARD;      PRT;   143 AA.
AC   Q95222; O18846;
DT   01-NOV-1997 (Rel. 35, Created)
DT   16-OCT-2001 (Rel. 40, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN   IGF1 OR IGF-1.
OS   Oryctolagus cuniculus (Rabbit).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.
OX   NCBI_TaxID=9986;
RN   [1]
RP   SEQUENCE FROM N.A. (ISOFORM IGF-IA).
RC   STRAIN=ZIKA;
RA   Flekna G., Brem G., Mueller M.;
RL   Submitted (NOV-1996) to the EMBL/GenBank/DDBJ databases.
RN   [2]
RP   SEQUENCE FROM N.A. (ISOFORM IGF-IB).
RC   STRAIN=ZIKA; TISSUE=Liver;
RA   Flekna G., Brem G., Mueller M.;
RL   Submitted (SEP-1997) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: The insulin-like growth factors, isolated from plasma,
CC       are structurally and functionally related to insulin but have a
CC       much higher growth-promoting activity.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- ALTERNATIVE PRODUCTS:
CC       Event=Alternative splicing; Named isoforms=2;
CC       Name=IGF-IB;
CC         IsoId=Q95222-1; Sequence=Displayed;
CC       Name=IGF-IA;
CC         IsoId=Q95222-2; Sequence=VSP_002705;
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; U75390; AAB48032.1; -.
DR   EMBL; AF022961; AAB80950.1; -.
DR   HSSP; P01343; 1GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma; Signal; Alternative splicing.
FT   SIGNAL        1     32       POTENTIAL.
FT   CHAIN        33    102       INSULIN-LIKE GROWTH FACTOR I.
FT   PROPEP      103    143       E PEPTIDE.
FT   DOMAIN       33     61       B.
FT   DOMAIN       62     73       C.
FT   DOMAIN       74     94       A.
FT   DOMAIN       95    102       D.
FT   DISULFID     38     80       BY SIMILARITY.
FT   DISULFID     50     93       BY SIMILARITY.
FT   DISULFID     79     84       BY SIMILARITY.
FT   VARSPLIC    119    143       YQPPSTNKKMKSQRRRKGSTFEEHK -> EVHLKNTSRGSA
FT                                GNKNYRM (in isoform IGF-IA).
FT                                /FTId=VSP_002705.
SQ   SEQUENCE   143 AA;  16091 MW;  819AF577800A1B1A CRC64;

  Query Match             99.2%;  Score 382;  DB 1;  Length 143;
  Best Local Similarity   98.6%;  Pred. No. 4e-40;
  Matches   69;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         33 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 92

Qy         61 CAPLKPAKSA 70
              ||||||||:|
Db         93 CAPLKPAKAA 102


RESULT 10
IGF1_CAPHI
ID   IGF1_CAPHI     STANDARD;      PRT;   154 AA.
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AC   P51457;
DT   01-OCT-1996 (Rel. 34, Created)
DT   16-OCT-2001 (Rel. 40, Last sequence update)
DT   15-MAR-2004 (Rel. 43, Last annotation update)
DE   Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN   IGF1.
OS   Capra hircus (Goat).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
OC   Bovidae; Caprinae; Capra.
OX   NCBI_TaxID=9925;
RN   [1]
RP   SEQUENCE FROM N.A., AND TISSUE SPECIFICITY.
RC   STRAIN=Shiba; TISSUE=Liver;
RX   MEDLINE=95290780; PubMed=7772848;
RA   Mikawa S., Yoshikawa G.-I., Yamano Y., Sakai H., Komano T., Hosoi Y.,
RA   Utsumi K.;
RT   "Tissue- and development-specific expression of goat insulin-like
RT   growth factor-I (IGF-I) mRNAs.";
RL   Biosci. Biotechnol. Biochem. 59:759-761(1995).
CC   -!- FUNCTION: The insulin-like growth factors, isolated from plasma,
CC       are structurally and functionally related to insulin but have a
CC       much higher growth-promoting activity.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- TISSUE SPECIFICITY: Expressed in all tissues examined: brain,
CC       lung, liver, spleen, uterus, ovary, testis, heart and skeletal
CC       muscle.
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; D11378; BAA01976.1; -.
DR   EMBL; D26119; BAB77524.1; ALT_SEQ.
DR   EMBL; D26116; BAB77524.1; JOINED.
DR   EMBL; D26117; BAB77524.1; JOINED.
DR   EMBL; D26118; BAB77524.1; JOINED.
DR   PIR; JC2483; JC2483.
DR   HSSP; P01343; 1GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma; Signal.
FT   SIGNAL        1      ?
FT   PROPEP        ?     49       BY SIMILARITY.
FT   CHAIN        50    119       INSULIN-LIKE GROWTH FACTOR I.
FT   DOMAIN       50     78       B.
FT   DOMAIN       79     90       C.
FT   DOMAIN       91    111       A.
FT   DOMAIN      112    119       D.
FT   PROPEP      120    154       E PEPTIDE.
FT   DISULFID     55     97       BY SIMILARITY.
FT   DISULFID     67    110       BY SIMILARITY.
FT   DISULFID     96    101       BY SIMILARITY.
SQ   SEQUENCE   154 AA;  17082 MW;  07238B6AF3068422 CRC64;

  Query Match          99.0%;  Score 381;  DB 1;  Length 154;
  Best Local Similarity   98.6%;  Pred. No. 5.8e-40;
  Matches   69;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         50 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 109

Qy         61 CAPLKPAKSA 70
              |||||| |||
Db        110 CAPLKPTKSA 119


RESULT 11
IGF1_SHEEP
ID   IGF1_SHEEP     STANDARD;      PRT;   154 AA.
AC   P10763;
DT   01-JUL-1989 (Rel. 11, Created)
DT   01-FEB-1991 (Rel. 17, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN   IGF1.
OS   Ovis aries (Sheep).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
OC   Bovidae; Caprinae; Ovis.
OX   NCBI_TaxID=9940;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=90126234; PubMed=2575490;
RA   Wong E.A., Ohlsen S.M., Godfredson J.A., Dean D.M., Wheaton J.E.;
RT   "Cloning of ovine insulin-like growth factor-I cDNAs: heterogeneity
RT   in the mRNA population.";
RL   DNA 8:649-657(1989).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=91197361; PubMed=2015053;
RA   Dickson M.C., Saunders J.C., Gilmour R.S.;
RT   "The ovine insulin-like growth factor-I gene: characterization,
RT   expression and identification of a putative promoter.";
RL   J. Mol. Endocrinol. 6:17-31(1991).
RN   [3]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=93221682; PubMed=8466647;
RA   Ohlsen S.M., Dean D.M., Wong E.A.;
RT   "Characterization of multiple transcription initiation sites of the
RT   ovine insulin-like growth factor-I gene and expression profiles of
RT   three alternatively spliced transcripts.";
RL   DNA Cell Biol. 12:243-251(1993).
RN   [4]
RP   SEQUENCE OF 55-135 FROM N.A.
RC   STRAIN=Coopworth; TISSUE=Liver;
RX   MEDLINE=93250051; PubMed=8485157;
RA   Demmer J., Hill D.F., Petersen G.B.;
RT   "Characterization of two sheep insulin-like growth factor II cDNAs
RT   with different 5'-untranslated regions.";
RL   Biochim. Biophys. Acta 1173:79-80(1993).
RN   [5]
RP   SEQUENCE OF 50-119.
RX   MEDLINE=89136887; PubMed=2537174;
RA   Francis G.L., McNeil K.A., Wallace J.C., Ballard F.J., Owens P.C.;
RT   "Sheep insulin-like growth factors I and II: sequences, activities
RT   and assays.";
RL   Endocrinology 124:1173-1183(1989).
RN   [6]
RP   SEQUENCE OF 50-79.
RX   MEDLINE=89323215; PubMed=2752053;
RA   Hey A.W., Browne C.A., Simpson R.J., Thorburn G.D.;
RT   "Simultaneous isolation of insulin-like growth factors I and II from
RT   adult sheep serum.";
RL   Biochim. Biophys. Acta 997:27-35(1989).
CC   -!- FUNCTION: The insulin-like growth factors, isolated from plasma,
CC       are structurally and functionally related to insulin but have a
CC       much higher growth-promoting activity.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- ALTERNATIVE PRODUCTS:
CC       Event=Alternative splicing; Named isoforms=3;
CC       Name=B;
CC         IsoId=P10763-1; Sequence=Displayed;
CC       Name=A;
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CC         IsoId=P10763-2; Sequence=VSP_002707;
CC       Name=C;
CC         IsoId=P10763-3; Sequence=VSP_002706;
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; M30653; AAA80532.1; -.
DR   EMBL; M30653; AAA80533.1; -.
DR   EMBL; M31734; AAA80535.1; -.
DR   EMBL; M31734; AAA80534.1; -.
DR   EMBL; M31736; AAA31545.1; -.
DR   EMBL; M31735; AAA31546.1; -.
DR   EMBL; M31735; AAA31547.1; -.
DR   EMBL; X69472; CAA49230.1; -.
DR   EMBL; X69473; CAA49230.1; JOINED.
DR   EMBL; X69474; CAA49230.1; JOINED.
DR   EMBL; X69475; CAA49230.1; JOINED.
DR   EMBL; X69472; CAA49231.1; -.
DR   EMBL; X69473; CAA49231.1; JOINED.
DR   EMBL; X69474; CAA49231.1; JOINED.
DR   EMBL; X69475; CAA49231.1; JOINED.
DR   EMBL; X69473; CAA49232.1; -.
DR   EMBL; X69474; CAA49232.1; JOINED.
DR   EMBL; X69475; CAA49232.1; JOINED.
DR   EMBL; M89787; AAA31544.1; -.
DR   PIR; S22877; A33390.
DR   HSSP; P01343; 1GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma; Signal; Alternative splicing.
FT   SIGNAL       1      ?
FT   PROPEP       ?     49
FT   CHAIN       50    119       INSULIN-LIKE GROWTH FACTOR I.
FT   DOMAIN      50     78       B.
FT   DOMAIN      79     90       C.
FT   DOMAIN      91    111       A.
FT   DOMAIN     112    119       D.
FT   PROPEP     120    154       E PEPTIDE.
FT   DISULFID    55     97       BY SIMILARITY.
FT   DISULFID    67    110       BY SIMILARITY.
FT   DISULFID    96    101       BY SIMILARITY.
FT   VARSPLIC     1     21       MGKISSLPTQLFKCCFCDFLK -> MVTPT (in
FT                               isoform C).
FT                               /FTId=VSP_002706.
FT   VARSPLIC     1     34       Missing (in isoform A).
FT                               /FTId=VSP_002707.
FT   CONFLICT    57     57       A -> V (IN REF. 4).
SQ   SEQUENCE   154 AA;  17012 MW;  E226CE6AF653CF3F CRC64;

  Query Match             97.9%;  Score 377;  DB 1;  Length 154;
  Best Local Similarity   98.6%;  Pred. No. 1.8e-39;
  Matches   69;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         50 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 109

Qy         61 CAPLKPAKSA 70
              ||||| ||||
Db        110 CAPLKAAKSA 119


RESULT 12
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IGFA_RAT
ID   IGFA_RAT       STANDARD;      PRT;   153 AA.
AC   P08025;
DT   01-AUG-1988 (Rel. 08, Created)
DT   01-FEB-1991 (Rel. 17, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor IA precursor (IGF-IA) (Somatomedin).
GN   IGF1 OR IGF-1.
OS   Rattus norvegicus (Rat).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX   NCBI_TaxID=10116;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=87222423; PubMed=3034909;
RA   Shimatsu A., Rotwein P.;
RT   "Mosaic evolution of the insulin-like growth factors. Organization,
RT   sequence, and expression of the rat insulin-like growth factor I
RT   gene.";
RL   J. Biol. Chem. 262:7894-7900(1987).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Testis;
RX   MEDLINE=88003970; PubMed=3652906;
RA   Casella S.J., Smith E.P., van Wyk J.J., Joseph D.R., Hynes M.A.,
RA   Hoyt E.C., Lund P.K.;
RT   "Isolation of rat testis cDNAs encoding an insulin-like growth factor
RT   I precursor.";
RL   DNA 6:325-330(1987).
RN   [3]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=91103966; PubMed=1368571;
RA   Kato H., Okoshi A., Miura Y., Noguchi T.;
RT   "A new cDNA clone relating to larger molecular species of rat
RT   insulin-like growth factor-I mRNA.";
RL   Agric. Biol. Chem. 54:1599-1601(1990).
RN   [4]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=89127259; PubMed=3221878;
RA   Roberts C.T., Lasky S.R., Lowe W.L., Seaman W.T., Leroith D.;
RT   "Structure of the rat insulin-like growth factor II transcriptional
RT   unit: heterogeneous transcripts are generated from two promoters by
RT   use of multiple polyadenylation sites and differential ribonucleic
RT   acid splicing.";
RL   Mol. Endocrinol. 2:1115-1126(1988).
RN   [5]
RP   SEQUENCE OF 46-153 FROM N.A.
RX   MEDLINE=87246437; PubMed=3595538;
RA   Murphy L.J., Bell G.I., Duckworth M.L., Friesen H.G.;
RT   "Identification, characterization, and regulation of a rat
RT   complementary deoxyribonucleic acid which encodes insulin-like growth
RT   factor-I.";
RL   Endocrinology 121:684-691(1987).
RN   [6]
RP   SEQUENCE OF 49-118.
RX   MEDLINE=89174609; PubMed=2538424;
RA   Tamura K., Kobayashi M., Ishii Y., Tamura T., Hashimoto K.,
RA   Nakamura S., Niwa M., Zapf J.;
RT   "Primary structure of rat insulin-like growth factor-I and its
RT   biological activities.";
RL   J. Biol. Chem. 264:5616-5621(1989).
CC   -!- FUNCTION: The insulin-like growth factors, isolated from plasma,
CC       are structurally and functionally related to insulin but have a
CC       much higher growth-promoting activity.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- ALTERNATIVE PRODUCTS:
CC       Event=Alternative splicing; Named isoforms=2;
CC       Name=IGF-IA;
CC         IsoId=P08025-1; Sequence=Displayed;
CC       Name=IGF-IB;
CC         IsoId=P08024-1; Sequence=External;
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
```

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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------------
DR   EMBL; X06043; CAA29436.1; -.
DR   EMBL; M15651; AAA41215.1; -.
DR   EMBL; M15647; AAA41215.1; JOINED.
DR   EMBL; M15648; AAA41215.1; JOINED.
DR   EMBL; M15649; AAA41215.1; JOINED.
DR   EMBL; M17714; AAA41227.1; -.
DR   EMBL; M17335; AAA41386.1; ALT_INIT.
DR   EMBL; M15481; AAA41387.1; ALT_INIT.
DR   PIR; B27804; B27804.
DR   HSSP; P01343; 1GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma; Alternative splicing; Signal.
FT   SIGNAL        1      ?
FT   PROPEP        ?     48
FT   CHAIN        49    118       INSULIN-LIKE GROWTH FACTOR IA.
FT   DOMAIN       49     77       B.
FT   DOMAIN       78     89       C.
FT   DOMAIN       90    110       A.
FT   DOMAIN      111    118       D.
FT   PROPEP      119    153       E PEPTIDE.
FT   DISULFID     54     96       BY SIMILARITY.
FT   DISULFID     66    109       BY SIMILARITY.
FT   DISULFID     95    100       BY SIMILARITY.
FT   CONFLICT    110    112       APL -> VRC (IN REF. 4).
SQ   SEQUENCE   153 AA;  17079 MW;  966F3C0FA4EB3DE7 CRC64;

  Query Match             95.6%;  Score 368;  DB 1;  Length 153;
  Best Local Similarity   95.7%;  Pred. No. 2.3e-38;
  Matches   67;  Conservative    0;  Mismatches    3;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||||| |||||||||||||| ||||||||||||||||||||||||
Db         49 GPETLCGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy         61 CAPLKPAKSA 70
              |||||| |||
Db        109 CAPLKPTKSA 118


RESULT 13
IGFB_RAT
ID   IGFB_RAT       STANDARD;      PRT;   181 AA.
AC   P08024;
DT   01-AUG-1988 (Rel. 08, Created)
DT   01-FEB-1991 (Rel. 17, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor IB precursor (IGF-IB) (Somatomedin).
GN   IGF1 OR IGF-1.
OS   Rattus norvegicus (Rat).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX   NCBI_TaxID=10116;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=87222423; PubMed=3034909;
RA   Shimatsu A., Rotwein P.;
RT   "Mosaic evolution of the insulin-like growth factors. Organization,
RT   sequence, and expression of the rat insulin-like growth factor I
RT   gene.";
RL   J. Biol. Chem. 262:7894-7900(1987).
RN   [2]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=88015572; PubMed=3658684;
RA   Shimatsu A., Rotwein P.;
RT   "Sequence of two rat insulin-like growth factor I mRNAs differing
RT   within the 5' untranslated region.";
RL   Nucleic Acids Res. 15:7196-7196(1987).
RN   [3]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=89127259; PubMed=3221878;
RA   Roberts C.T., Lasky S.R., Lowe W.L., Seaman W.T., Leroith D.;
RT   "Structure of the rat insulin-like growth factor II transcriptional
RT   unit: heterogeneous transcripts are generated from two promoters by
RT   use of multiple polyadenylation sites and differential ribonucleic
RT   acid splicing.";
RL   Mol. Endocrinol. 2:1115-1126(1988).
RN   [4]
RP   SEQUENCE OF 49-118.
RX   MEDLINE=89174609; PubMed=2538424;
RA   Tamura K., Kobayashi M., Ishii Y., Tamura T., Hashimoto K.,
RA   Nakamura S., Niwa M., Zapf J.;
RT   "Primary structure of rat insulin-like growth factor-I and its
RT   biological activities.";
RL   J. Biol. Chem. 264:5616-5621(1989).
CC   -!- FUNCTION: The insulin-like growth factors, isolated from plasma,
CC       are structurally and functionally related to insulin but have a
CC       much higher growth-promoting activity.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- ALTERNATIVE PRODUCTS:
CC       Event=Alternative splicing; Named isoforms=2;
CC       Name=IGF-IB;
CC         IsoId=P08024-1; Sequence=Displayed;
CC       Name=IGF-IA;
CC         IsoId=P08025-1; Sequence=External;
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------------
DR   EMBL; M15650; AAA41214.1; -.
DR   EMBL; M15647; AAA41214.1; JOINED.
DR   EMBL; M15648; AAA41214.1; JOINED.
DR   EMBL; M15649; AAA41214.1; JOINED.
DR   EMBL; X06107; CAA29480.1; ALT_SEQ.
DR   EMBL; M15480; AAA41385.1; ALT_SEQ.
DR   PIR; A27804; A27804.
DR   HSSP; P01343; 1GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma; Alternative splicing; Signal.
FT   SIGNAL        1      ?
FT   PROPEP        ?     48
FT   CHAIN        49    118       INSULIN-LIKE GROWTH FACTOR IB.
FT   DOMAIN       49     77       B.
FT   DOMAIN       78     89       C.
FT   DOMAIN       90    110       A.
FT   DOMAIN      111    118       D.
FT   PROPEP      119    181       E PEPTIDE.
FT   DISULFID     54     96       BY SIMILARITY.
FT   DISULFID     66    109       BY SIMILARITY.
FT   DISULFID     95    100       BY SIMILARITY.
FT   CONFLICT    110    112       APL -> VRC (IN REF. 2).
SQ   SEQUENCE   181 AA;  20322 MW;  52BAB431875A1A06 CRC64;

  Query Match             95.6%;  Score 368;  DB 1;  Length 181;
  Best Local Similarity   95.7%;  Pred. No. 2.8e-38;
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  Matches   67;  Conservative    0;  Mismatches    3;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||||| |||||||||||||||| ||||||||||||||||||||||||
Db         49 GPETLCGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy         61 CAPLKPAKSA 70
              |||||| |||
Db        109 CAPLKPTKSA 118


RESULT 14
IGFA_MOUSE
ID   IGFA_MOUSE     STANDARD;      PRT;   127 AA.
AC   P05017;
DT   13-AUG-1987 (Rel. 05, Created)
DT   13-AUG-1987 (Rel. 05, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor IA precursor (IGF-IA) (Somatomedin).
GN   IGF1 OR IGF-1.
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=87040760; PubMed=3774549;
RA   Bell G.I., Stempien M.M., Fong N.M., Rall L.B.;
RT   "Sequences of liver cDNAs encoding two different mouse insulin-like
RT   growth factor I precursors.";
RL   Nucleic Acids Res. 14:7873-7882(1986).
CC   -!- FUNCTION: The insulin-like growth factors, isolated from plasma,
CC       are structurally and functionally related to insulin but have a
CC       much higher growth-promoting activity.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- ALTERNATIVE PRODUCTS:
CC       Event=Alternative splicing; Named isoforms=2;
CC       Name=IGF-IA;
CC         IsoId=P05017-1; Sequence=Displayed;
CC       Name=IGF-IB;
CC         IsoId=P05018-1; Sequence=External;
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
CC   This SWISS-PROT entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use by non-profit institutions as long as its content is in no way
CC   modified and this statement is not removed. Usage by and for commercial
CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; X04480; CAA28168.1; -.
DR   PIR; A25540; A25540.
DR   HSSP; P01343; 1GF1.
DR   MGD; MGI:96432; Igf1.
DR   GO; GO:0010001; P:glial cell differentiation; IMP.
DR   GO; GO:0007399; P:neurogenesis; IMP.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma; Alternative splicing; Signal.
FT   SIGNAL        1     22
FT   CHAIN        23     92       INSULIN-LIKE GROWTH FACTOR IA.
FT   DOMAIN       23     51       B.
FT   DOMAIN       52     63       C.
FT   DOMAIN       64     84       A.
FT   DOMAIN       85     92       D.
FT   PROPEP       93    127       E PEPTIDE.
FT   DISULFID     28     70       BY SIMILARITY.
FT   DISULFID     40     83       BY SIMILARITY.
FT   DISULFID     69     74       BY SIMILARITY.
SQ   SEQUENCE   127 AA;  14120 MW;  1054B8CAC72DC2D7 CRC64;

  Query Match             94.8%;  Score 365;  DB 1;  Length 127;
  Best Local Similarity   94.3%;  Pred. No. 4.4e-38;
  Matches   66;  Conservative    1;  Mismatches    3;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||||| |||||||||||||||| ||||||||||||||||||||||||
Db         23 GPETLCGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 82

Qy         61 CAPLKPAKSA 70
              |||||| |:|
Db         83 CAPLKPTKAA 92


RESULT 15
IGFB_MOUSE
ID   IGFB_MOUSE     STANDARD;      PRT;   133 AA.
AC   P05018;
DT   13-AUG-1987 (Rel. 05, Created)
DT   13-AUG-1987 (Rel. 05, Last sequence update)
DT   15-MAR-2004 (Rel. 43, Last annotation update)
DE   Insulin-like growth factor IB precursor (IGF-IB) (Somatomedin).
GN   IGF1 OR IGF-1.
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=87040760; PubMed=3774549;
RA   Bell G.I., Stempien M.M., Fong N.M., Rall L.B.;
RT   "Sequences of liver cDNAs encoding two different mouse insulin-like
RT   growth factor I precursors.";
RL   Nucleic Acids Res. 14:7873-7882(1986).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   STRAIN=FVB/N; TISSUE=Liver;
RX   MEDLINE=22388257; PubMed=12477932;
RA   Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA   Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
RA   Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA   Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA   Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA   Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
RA   Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA   Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RA   Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA   Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA   Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA   Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
RA   Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA   Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA   Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA   Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,
RA   Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.;
RT   "Generation and initial analysis of more than 15,000 full-length
RT   human and mouse cDNA sequences.";
RL   Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
CC   -!- FUNCTION: The insulin-like growth factors, isolated from plasma,
CC       are structurally and functionally related to insulin but have a
CC       much higher growth-promoting activity.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- ALTERNATIVE PRODUCTS:
CC       Event=Alternative splicing; Named isoforms=2;
CC       Name=IGF-IB;
CC         IsoId=P05018-1; Sequence=Displayed;
CC       Name=IGF-IA;
CC         IsoId=P05017-1; Sequence=External;
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
```

```
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CC   or send an email to license@isb-sib.ch).
CC   ----------------------------------------------------------------------
DR   EMBL; X04482; CAA28170.1; -.
DR   EMBL; BC012409; AAH12409.1; -.
DR   HSSP; P01343; 1GF1.
DR   MGD; MGI:96432; Igf1.
DR   GO; GO:0010001; P:glial cell differentiation; IMP.
DR   GO; GO:0007399; P:neurogenesis; IMP.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma; Alternative splicing; Signal.
FT   SIGNAL        1     22
FT   CHAIN        23     92       INSULIN-LIKE GROWTH FACTOR IB.
FT   DOMAIN       23     51       B.
FT   DOMAIN       52     63       C.
FT   DOMAIN       64     84       A.
FT   DOMAIN       85     92       D.
FT   PROPEP       93    133       E PEPTIDE.
FT   DISULFID     28     70       BY SIMILARITY.
FT   DISULFID     40     83       BY SIMILARITY.
FT   DISULFID     69     74       BY SIMILARITY.
SQ   SEQUENCE   133 AA;  14915 MW;  B8E5C05B88D62502 CRC64;

  Query Match             94.8%;  Score 365;  DB 1;  Length 133;
  Best Local Similarity   94.3%;  Pred. No. 4.7e-38;
  Matches   66;  Conservative    1;  Mismatches    3;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| |||||||||||| |||||||||||||||||||||||||||
Db         23 GPETLCGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 82

Qy         61 CAPLKPAKSA 70
              |||||| |:|
Db         83 CAPLKPTKAA 92


RESULT 16
IGF1_COTJA
ID   IGF1_COTJA     STANDARD;      PRT;   124 AA.
AC   P51462;
DT   01-OCT-1996 (Rel. 34, Created)
DT   01-OCT-1996 (Rel. 34, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor I precursor (IGF-I) (Somatomedin)
DE   (Fragment).
GN   IGF1.
OS   Coturnix coturnix japonica (Japanese quail).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
OC   Coturnix.
OX   NCBI_TaxID=93934;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=95187621; PubMed=7881819;
RA   Kida S., Iwaki M., Nakamura A., Miura Y., Takenaka A., Takahashi S.,
RA   Noguchi T.;
RT   "Insulin-like growth factor-I messenger RNA content in the oviduct of
RT   Japanese quail (Coturnix coturnix japonica): changes during growth
RT   and development or after estrogen administration.";
RL   Comp. Biochem. Physiol. 109C:191-204(1994).
CC   -!- FUNCTION: The insulin-like growth factors, isolated from plasma,
CC       are structurally and functionally related to insulin but have a
CC       much higher growth-promoting activity.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ----------------------------------------------------------------------
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CC   modified and this statement is not removed. Usage by and for commercial
CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ----------------------------------------------------------------------
DR   EMBL; S75247; -; NOT_ANNOTATED_CDS.
DR   HSSP; P01343; 1GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma.
FT   NON_TER       1      1
FT   PROPEP       <1     19       POTENTIAL.
FT   CHAIN        20     89       INSULIN-LIKE GROWTH FACTOR I.
FT   DOMAIN       20     48       B.
FT   DOMAIN       49     60       C.
FT   DOMAIN       61     81       A.
FT   DOMAIN       82     89       D.
FT   PROPEP       90    124       E PEPTIDE.
FT   DISULFID     25     67       BY SIMILARITY.
FT   DISULFID     37     80       BY SIMILARITY.
FT   DISULFID     66     71       BY SIMILARITY.
SQ   SEQUENCE   124 AA;  13888 MW;  52254EB1BA52C3B6 CRC64;

  Query Match             89.4%;  Score 344;  DB 1;  Length 124;
  Best Local Similarity   88.6%;  Pred. No. 1.7e-35;
  Matches   62;  Conservative    3;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||||||||:|||||||||||    ||||||||:||||||||||
Db         20 GPETLCGAELVDALQFVCGDRGFYFSKPTGYGSSSRRLHHKGIVDECCFQSCDLRRLEMY 79

Qy         61 CAPLKPAKSA 70
              |||:|| |||
Db         80 CAPIKPPKSA 89


RESULT 17
IGF1_CHICK
ID   IGF1_CHICK     STANDARD;      PRT;   153 AA.
AC   P18254;
DT   01-NOV-1990 (Rel. 16, Created)
DT   01-NOV-1990 (Rel. 16, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN   IGF1.
OS   Gallus gallus (Chicken).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
OC   Gallus.
OX   NCBI_TaxID=9031;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=90190648; PubMed=2628728;
RA   Kajimoto Y., Rotwein P.;
RT   "Structure and expression of a chicken insulin-like growth factor I
RT   precursor.";
RL   Mol. Endocrinol. 3:1907-1913(1989).
RN   [2]
RP   SEQUENCE OF 1-21 FROM N.A.
RX   MEDLINE=91236750; PubMed=2033062;
RA   Rotwein P., Kajimoto Y.;
RT   "Structure of the chicken insulin-like growth factor I gene reveals
RT   conserved promoter elements.";
RL   J. Biol. Chem. 266:9724-9731(1991).
RN   [3]
```

```
RP   SEQUENCE OF 49-118.
RX   MEDLINE=91106695; PubMed=2272467;
RA   Ballard F.J., Johnson R.J., Owens P.C., Francis G.L., Upton F.M.,
RA   McMurtry J.P., Wallace J.C.;
RT   "Chicken insulin-like growth factor-I: amino acid sequence,
RT   radioimmunoassay, and plasma levels between strains and during
RT   growth.";
RL   Gen. Comp. Endocrinol. 79:459-468(1990).
CC   -!- FUNCTION: The insulin-like growth factors, isolated from plasma,
CC       are structurally and functionally related to insulin but have a
CC       much higher growth-promoting activity.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; M32791; AAA48828.1; -.
DR   EMBL; M74176; AAA48829.1; -.
DR   PIR; A41399; A41399.
DR   HSSP; P01343; 1GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma; Signal.
FT   SIGNAL        1      ?
FT   PROPEP        ?     48
FT   CHAIN        49    118       INSULIN-LIKE GROWTH FACTOR I.
FT   DOMAIN       49     77       B.
FT   DOMAIN       78     89       C.
FT   DOMAIN       90    110       A.
FT   DOMAIN      111    118       D.
FT   PROPEP      119    153       E PEPTIDE.
FT   DISULFID     54     96       BY SIMILARITY.
FT   DISULFID     66    109       BY SIMILARITY.
FT   DISULFID     95    100       BY SIMILARITY.
SQ   SEQUENCE   153 AA;  17267 MW;  AAE13FDED13EE2F8 CRC64;

  Query Match             89.4%;  Score 344;  DB 1;  Length 153;
  Best Local Similarity   88.6%;  Pred. No. 2.1e-35;
  Matches   62;  Conservative    3;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||||||||||:||||||||||    |||||||:||||||||||
Db         49 GPETLCGAELVDALQFVCGDRGFYFSKPTGYGSSSRRLHHKGIVDECCFQSCDLRRLEMY 108

Qy         61 CAPLKPAKSA 70
              |||:|| |||
Db        109 CAPIKPPKSA 118


RESULT 18
IGF1_XENLA
ID   IGF1_XENLA     STANDARD;      PRT;   153 AA.
AC   P16501;
DT   01-AUG-1990 (Rel. 15, Created)
DT   01-AUG-1990 (Rel. 15, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
OS   Xenopus laevis (African clawed frog).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
OC   Xenopodinae; Xenopus.
OX   NCBI_TaxID=8355;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=90231335; PubMed=2330002;
RA   Kajimoto Y., Rotwein P.;
RT   "Evolution of insulin-like growth factor I (IGF-I): structure and
RT   expression of an IGF-I precursor from Xenopus laevis.";
RL   Mol. Endocrinol. 4:217-226(1990).
CC   -!- FUNCTION: The insulin-like growth factors, isolated from plasma,
CC       are structurally and functionally related to insulin but have a
CC       much higher growth-promoting activity.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; M29857; AAA70330.1; -.
DR   PIR; A36079; A36079.
DR   HSSP; P01343; 1GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma; Signal.
FT   SIGNAL        1      ?
FT   PROPEP        ?     48
FT   CHAIN        49    118       INSULIN-LIKE GROWTH FACTOR I.
FT   DOMAIN       49     77       B.
FT   DOMAIN       78     89       C.
FT   DOMAIN       90    110       A.
FT   DOMAIN      111    118       D.
FT   PROPEP      119    153       E PEPTIDE.
FT   DISULFID     54     96       BY SIMILARITY.
FT   DISULFID     66    109       BY SIMILARITY.
FT   DISULFID     95    100       BY SIMILARITY.
SQ   SEQUENCE   153 AA;  17349 MW;  720EDDAA17AFCFBE CRC64;

  Query Match             86.8%;  Score 334;  DB 1;  Length 153;
  Best Local Similarity   84.3%;  Pred. No. 3.6e-34;
  Matches   59;  Conservative    5;  Mismatches    6;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||| ||||||||||||:|||||||::||:   ||||||||:||| ||||||
Db         49 GPETLCGAELVDTLQFVCGDRGFYFSKPTGYGSNNRRSHHRGIVDECCFQSCDFRRLEMY 108

Qy         61 CAPLKPAKSA 70
              ||| ||||||
Db        109 CAPAKPAKSA 118


RESULT 19
IGFA_CYPCA
ID   IGFA_CYPCA     STANDARD;      PRT;   161 AA.
AC   Q90325;
DT   01-NOV-1997 (Rel. 35, Created)
DT   01-NOV-1997 (Rel. 35, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor I, adult form precursor.
OS   Cyprinus carpio (Common carp).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
OC   Cyprinidae; Cyprinus.
OX   NCBI_TaxID=7962;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=97283739; PubMed=9137817;
RA   Hashimoto H., Mikawa S., Takayama E., Yokoyama Y., Toyohara H.,
RA   Sakaguchi M.;
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RT   "Molecular cloning and growth hormone-regulated gene expression of
RT   carp insulin-like growth factor-I.";
RL   Biochem. Mol. Biol. Int. 41:877-886(1997).
CC   -!- FUNCTION: The insulin-like growth factors, isolated from plasma,
CC       are structurally and functionally related to insulin but have a
CC       much higher growth-promoting activity.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
CC   This SWISS-PROT entry is copyright. It is produced through a collaboration
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; D83271; BAA11878.1; -.
DR   HSSP; P01343; 1GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma; Signal.
FT   SIGNAL        1      ?       POTENTIAL.
FT   PROPEP        ?     44       POTENTIAL.
FT   CHAIN        45    114       INSULIN-LIKE GROWTH FACTOR I, ADULT FORM.
FT   DOMAIN       45     73       B.
FT   DOMAIN       74     85       C.
FT   DOMAIN       86    106       A.
FT   DOMAIN      107    114       D.
FT   PROPEP      115    161       E PEPTIDE.
FT   DISULFID     50     92       BY SIMILARITY.
FT   DISULFID     62    105       BY SIMILARITY.
FT   DISULFID     91     96       BY SIMILARITY.
SQ   SEQUENCE   161 AA;  17915 MW;  B949960563391AF8 CRC64;

  Query Match             84.7%;  Score 326;  DB 1;  Length 161;
  Best Local Similarity   82.6%;  Pred. No. 3.7e-33;
  Matches   57;  Conservative    6;  Mismatches    6;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||| ||||||||||||:|||||| ||||:   ||||||||:||:|||||||
Db         45 GPETLCGAELVDTLQFVCGDRGFYFSKPTGYGPSSRRSHNRGIVDECCFQSCELRRLEMY 104

Qy         61 CAPLKPAKS 69
              |||:|| |:
Db        105 CAPVKPGKT 113


RESULT 20
IGFB_CYPCA
ID   IGFB_CYPCA     STANDARD;      PRT;   161 AA.
AC   Q90326;
DT   01-NOV-1997 (Rel. 35, Created)
DT   01-NOV-1997 (Rel. 35, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor I, juvenile form precursor.
OS   Cyprinus carpio (Common carp).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
OC   Cyprinidae; Cyprinus.
OX   NCBI_TaxID=7962;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=97283739; PubMed=9137817;
RA   Hashimoto H., Mikawa S., Takayama E., Yokoyama Y., Toyohara H.,
RA   Sakaguchi M.;
RT   "Molecular cloning and growth hormone-regulated gene expression of
RT   carp insulin-like growth factor-I.";
RL   Biochem. Mol. Biol. Int. 41:877-886(1997).
CC   -!- FUNCTION: The insulin-like growth factors, isolated from plasma,
CC       are structurally and functionally related to insulin but have a
CC       much higher growth-promoting activity.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; D83272; BAA11879.1; -.
DR   HSSP; P01343; 1GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma; Signal.
FT   SIGNAL        1      ?       POTENTIAL.
FT   PROPEP        ?     44       POTENTIAL.
FT   CHAIN        45    114       INSULIN-LIKE GROWTH FACTOR I, JUVENILE
FT                                 FORM.
FT   DOMAIN       45     73       B.
FT   DOMAIN       74     85       C.
FT   DOMAIN       86    106       A.
FT   DOMAIN      107    114       D.
FT   PROPEP      115    161       E PEPTIDE.
FT   DISULFID     50     92       BY SIMILARITY.
FT   DISULFID     62    105       BY SIMILARITY.
FT   DISULFID     91     96       BY SIMILARITY.
SQ   SEQUENCE   161 AA;  17918 MW;  A48BB63F5BBCDC2A CRC64;

  Query Match             84.7%;  Score 326;  DB 1;  Length 161;
  Best Local Similarity   82.6%;  Pred. No. 3.7e-33;
  Matches   57;  Conservative    6;  Mismatches    6;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||| ||||||||||||:|||||| ||||:   ||||||||:||:|||||||
Db         45 GPETLCGAELVDTLQFVCGDRGFYFSKPTGYGPSSRRSHNRGIVDECCFQSCELRRLEMY 104

Qy         61 CAPLKPAKS 69
              |||:|| |:
Db        105 CAPVKPGKT 113


RESULT 21
IGF1_ONCKI
ID   IGF1_ONCKI     STANDARD;      PRT;   176 AA.
AC   P17085;
DT   01-AUG-1990 (Rel. 15, Created)
DT   01-AUG-1990 (Rel. 15, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
OS   Oncorhynchus kisutch (Coho salmon).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC   Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX   NCBI_TaxID=8019;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=90190659; PubMed=2628735;
RA   Cao Q.-P., Duguay S.J., Plisetskaya E.M., Steiner D.F., Chan S.J.;
RT   "Nucleotide sequence and growth hormone-regulated expression of
RT   salmon insulin-like growth factor I mRNA.";
RL   Mol. Endocrinol. 3:2005-2010(1989).
RN   [2]
RP   SEQUENCE OF 45-114.
RX   MEDLINE=94062830; PubMed=8243465;
RA   Moriyama S., Duguay S.J., Conlon J.M., Duan C., Dickhoff W.W.,
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RA   Plisetskaya E.M.;
RT   "Recombinant coho salmon insulin-like growth factor I. Expression in
RT   Escherichia coli, purification and characterization.";
RL   Eur. J. Biochem. 218:205-211(1993).
CC   -!- FUNCTION: The insulin-like growth factors, isolated from plasma,
CC       are structurally and functionally related to insulin but have a
CC       much higher growth-promoting activity.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; M32792; AAA49410.1; -.
DR   PIR; A41396; A41396.
DR   HSSP; P01343; 1GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma; Signal.
FT   SIGNAL        1      ?
FT   PROPEP        ?     44
FT   CHAIN        45    114       INSULIN-LIKE GROWTH FACTOR I.
FT   DOMAIN       45     73       B.
FT   DOMAIN       74     85       C.
FT   DOMAIN       86    106       A.
FT   DOMAIN      107    114       D.
FT   PROPEP      115    176       E PEPTIDE.
FT   DISULFID     50     92       BY SIMILARITY.
FT   DISULFID     62    105       BY SIMILARITY.
FT   DISULFID     91     96       BY SIMILARITY.
SQ   SEQUENCE   176 AA;  19517 MW;  4AADCFCCEDAD8094 CRC64;

  Query Match             82.6%;  Score 318;  DB 1;  Length 176;
  Best Local Similarity   80.0%;  Pred. No. 4e-32;
  Matches   56;  Conservative    7;  Mismatches    7;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||| ||||||:|||||:|||||| ||||:   ||||||||:||:|||||||
Db         45 GPETLCGAELVDTLQFVCGERGFYFSKPTGYGPSSRRSHNRGIVDECCFQSCELRRLEMY 104

Qy         61 CAPLKPAKSA 70
              |||:|  |:|
Db        105 CAPVKSGKAA 114


RESULT 22
IGF1_ONCMY
ID   IGF1_ONCMY     STANDARD;      PRT;   176 AA.
AC   Q02815;
DT   01-FEB-1995 (Rel. 31, Created)
DT   01-FEB-1995 (Rel. 31, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
OS   Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC   Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX   NCBI_TaxID=8022;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=93028377; PubMed=1409585;
RA   Shamblott M.J., Chen T.T.;
RT   "Identification of a second insulin-like growth factor in a fish
RT   species.";
RL   Proc. Natl. Acad. Sci. U.S.A. 89:8913-8917(1992).
CC   -!- FUNCTION: The insulin-like growth factors, isolated from plasma,
CC       are structurally and functionally related to insulin but have a
CC       much higher growth-promoting activity.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; M95183; AAA49412.1; -.
DR   PIR; A46244; A46244.
DR   HSSP; P01343; 1GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma; Signal.
FT   SIGNAL        1      ?
FT   PROPEP        ?     44       BY SIMILARITY.
FT   CHAIN        45    114       INSULIN-LIKE GROWTH FACTOR I.
FT   DOMAIN       45     73       B.
FT   DOMAIN       74     85       C.
FT   DOMAIN       86    106       A.
FT   DOMAIN      107    114       D.
FT   PROPEP      115    176       E PEPTIDE.
FT   DISULFID     50     92       BY SIMILARITY.
FT   DISULFID     62    105       BY SIMILARITY.
FT   DISULFID     91     96       BY SIMILARITY.
SQ   SEQUENCE   176 AA;  19510 MW;  DE86283D80DDAD06 CRC64;

  Query Match             82.6%;  Score 318;  DB 1;  Length 176;
  Best Local Similarity   80.0%;  Pred. No. 4e-32;
  Matches   56;  Conservative    7;  Mismatches    7;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||| ||||||:|||||:|||||| ||||:   ||||||||:||:|||||||
Db         45 GPETLCGAELVDTLQFVCGERGFYFSKPTGYGPSSRRSHNRGIVDECCFQSCELRRLEMY 104

Qy         61 CAPLKPAKSA 70
              |||:|  |:|
Db        105 CAPVKSGKAA 114


RESULT 23
IGF2_ONCMY
ID   IGF2_ONCMY     STANDARD;      PRT;   214 AA.
AC   Q02816;
DT   01-FEB-1995 (Rel. 31, Created)
DT   01-FEB-1995 (Rel. 31, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor II precursor (IGF-II) (Erythrotropin).
OS   Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC   Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX   NCBI_TaxID=8022;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=93028377; PubMed=1409585;
RA   Shamblott M.J., Chen T.T.;
RT   "Identification of a second insulin-like growth factor in a fish
RT   species.";
RL   Proc. Natl. Acad. Sci. U.S.A. 89:8913-8917(1992).
CC   -!- FUNCTION: The insulin-like growth factors, isolated from plasma,
CC       are structurally and functionally related to insulin but have a
```

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CC       much higher growth-promoting activity.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
CC   This SWISS-PROT entry is copyright. It is produced through a collaboration
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CC   use by non-profit institutions as long as its content is in no way
CC   modified and this statement is not removed. Usage by and for commercial
CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; M95184; AAA49411.1; -.
DR   PIR; B46244; B46244.
DR   HSSP; P01344; 1GF2.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma; Signal.
FT   SIGNAL        1      ?
FT   PROPEP        ?     47       BY SIMILARITY.
FT   CHAIN        48    117       INSULIN-LIKE GROWTH FACTOR II.
FT   DOMAIN       48     79       B.
FT   DOMAIN       80     90       C.
FT   DOMAIN       91    111       A.
FT   DOMAIN      112    117       D.
FT   PROPEP      118    214       E PEPTIDE.
FT   DISULFID     56     97       BY SIMILARITY.
FT   DISULFID     68    110       BY SIMILARITY.
FT   DISULFID     96    101       BY SIMILARITY.
SQ   SEQUENCE   214 AA;  24636 MW;  FF8CCB173314C8FA CRC64;

  Query Match             64.5%;  Score 248.5;  DB 1;  Length 214;
  Best Local Similarity   73.1%;  Pred. No. 1.9e-23;
  Matches   49;  Conservative    5;  Mismatches   10;  Indels    3;  Gaps    2;

Qy          3 ETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMYCA 62
              ||||| |||||||||| ||||||::||   |:|||:   |||:|||||||||  || |||
Db         53 ETLCGGELVDALQFVCEDRGFYFSRPTS-RSNSRRSQNRGIVEECCFRSCDLNLLEQYCA 111

Qy         63 PLKPAKS 69
                |||||
Db        112 --KPAKS 116


RESULT 24
IGF2_MUSVI
ID   IGF2_MUSVI     STANDARD;      PRT;   129 AA.
AC   P41694;
DT   01-NOV-1995 (Rel. 32, Created)
DT   01-NOV-1995 (Rel. 32, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor II precursor (IGF-II) (Fragment).
GN   IGF2.
OS   Mustela vison (American mink).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Carnivora; Fissipedia; Mustelidae; Mustelinae;
OC   Mustela.
OX   NCBI_TaxID=9667;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=93307613; PubMed=7686523;
RA   Ekstroem T.J., Baecklin B.M., Lindqvist Y., Engstroem W.;
RT   "Insulin-like growth factor II in the mink (Mustela vison):
RT   determination of a cDNA nucleotide sequence and developmental
RT   regulation of its expression.";
RL   Gen. Comp. Endocrinol. 90:243-250(1993).
CC   -!- FUNCTION: The insulin-like growth factors possess growth-promoting
CC       activity. In vitro, they are potent mitogens for cultured cells.
CC       IGF-II is influenced by placental lactogen and may play a role in
CC       fetal development.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; S63459; AAB27392.2; -.
DR   HSSP; P01344; 1GF2.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Mitogen; Growth factor; Signal.
FT   SIGNAL        1     24       BY SIMILARITY.
FT   CHAIN        25     92       INSULIN-LIKE GROWTH FACTOR II.
FT   DOMAIN       25     52       B.
FT   DOMAIN       53     65       C.
FT   DOMAIN       66     86       A.
FT   DOMAIN       87     92       D.
FT   PROPEP       93   >129       E PEPTIDE (BY SIMILARITY).
FT   DISULFID     33     72       BY SIMILARITY.
FT   DISULFID     45     85       BY SIMILARITY.
FT   DISULFID     71     76       BY SIMILARITY.
FT   NON_TER     129    129
SQ   SEQUENCE   129 AA;  14436 MW;  FD06661DAFB473D0 CRC64;

  Query Match             58.3%;  Score 224.5;  DB 1;  Length 129;
  Best Local Similarity   67.2%;  Pred. No. 1e-20;
  Matches   45;  Conservative    3;  Mismatches   14;  Indels    5;  Gaps    2;

Qy          3 ETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMYCA 62
              ||||| |||| ||||||||||||::|    |   |    |||:|||||||||  || |||
Db         30 ETLCGGELVDTLQFVCGDRGFYFSRP---ASRVSRRSSRGIVEECCFRSCDLALLETYCA 86

Qy         63 PLKPAKS 69
                ||||
Db         87 --TPAKS 91


RESULT 25
IGF2_CAVPO
ID   IGF2_CAVPO     STANDARD;      PRT;   128 AA.
AC   Q08279;
DT   01-FEB-1995 (Rel. 31, Created)
DT   01-FEB-1995 (Rel. 31, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor II precursor (IGF-II) (Somatomedin A)
DE   (Fragment).
GN   IGF2.
OS   Cavia porcellus (Guinea pig).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Hystricognathi; Caviidae; Cavia.
OX   NCBI_TaxID=10141;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=Hartley; TISSUE=Liver;
RX   MEDLINE=93246007; PubMed=1301379;
RA   Levinovitz A., Norstedt G., van den Berg S., Robinson I.C.A.F.,
RA   Ekstroem T.J.;
RT   "Isolation of an insulin-like growth factor II cDNA from guinea pig
RT   liver: expression and developmental regulation.";
RL   Mol. Cell. Endocrinol. 89:105-110(1992).
CC   -!- FUNCTION: The insulin-like growth factors possess growth-promoting
CC       activity. In vitro, they are potent mitogens for cultured cells.
CC       IGF-II is influenced by placental lactogen and may play a role in
CC       fetal development.
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CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- DEVELOPMENTAL STAGE: EXPRESSED PREDOMINANTLY IN FETAL TISSUES AND
CC       AT LOWER LEVELS IN ADULT.
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
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CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; S59899; AAB26479.1; -.
DR   PIR; I57671; I57671.
DR   HSSP; P01344; 1GF2.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Mitogen; Growth factor; Signal.
FT   SIGNAL        1     24       BY SIMILARITY.
FT   CHAIN        25     91       INSULIN-LIKE GROWTH FACTOR II.
FT   DOMAIN       25     52       B.
FT   DOMAIN       53     64       C.
FT   DOMAIN       65     85       A.
FT   DOMAIN       86     91       D.
FT   PROPEP       92   >128       E PEPTIDE (BY SIMILARITY).
FT   DISULFID     33     71       BY SIMILARITY.
FT   DISULFID     45     84       BY SIMILARITY.
FT   DISULFID     70     75       BY SIMILARITY.
FT   NON_TER     128    128
SQ   SEQUENCE   128 AA;  14419 MW;  BC65A1D81A4CE056 CRC64;

  Query Match             57.9%;  Score 223;  DB 1;  Length 128;
  Best Local Similarity   68.7%;  Pred. No. 1.5e-20;
  Matches   46;  Conservative    4;  Mismatches   11;  Indels    6;  Gaps    3;

Qy          3 ETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMYCA 62
              ||||| |||| ||||||||||||::|     |||:   |||:|||||||||  || |||
Db         30 ETLCGGELVDTLQFVCGDRGFYFSRPA--SRVSRRS--RGIVEECCFRSCDLALLETYCA 85

Qy         63 PLKPAKS 69
                ||||
Db         86 --TPAKS 90


RESULT 26
IGF2_HUMAN
ID   IGF2_HUMAN     STANDARD;      PRT;   180 AA.
AC   P01344; P78449; Q14299; Q9UC69;
DT   21-JUL-1986 (Rel. 01, Created)
DT   21-JUL-1986 (Rel. 01, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor II precursor (IGF-II) (Somatomedin A).
GN   IGF2.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A. (ISOFORM 1).
RX   MEDLINE=84295593; PubMed=6382022;
RA   Dull T.J., Gray A., Hayflick J.S., Ullrich A.;
RT   "Insulin-like growth factor II precursor gene organization in
RT   relation to insulin gene family.";
RL   Nature 310:777-781(1984).
RN   [2]
RP   SEQUENCE FROM N.A. (ISOFORM 1).
RX   MEDLINE=84295592; PubMed=6382021;
RA   Bell G.I., Merryweather J.P., Sanchez-Pescador R., Stempien M.M.,
RA   Priestley L., Scott J., Rall L.B.;
RT   "Sequence of a cDNA clone encoding human preproinsulin-like growth
RT   factor II.";
RL   Nature 310:775-777(1984).
RN   [3]
RP   SEQUENCE FROM N.A. (ISOFORM 1).
RX   MEDLINE=88158110; PubMed=2450353;
RA   Shen S.-J., Daimon M., Wang C.-Y., Jansen M., Ilan J.;
RT   "Isolation of an insulin-like growth factor II cDNA with a unique 5'
RT   untranslated region from human placenta.";
RL   Proc. Natl. Acad. Sci. U.S.A. 85:1947-1951(1988).
RN   [4]
RP   SEQUENCE FROM N.A. (ISOFORM 1).
RX   MEDLINE=86108862; PubMed=3002851;
RA   de Pagter-Holthuizen P., van Schaik F.M.A., Verduijn G.M.,
RA   van Ommen G.J.B., Bouma B.N., Jansen M., Sussenbach J.S.;
RT   "Organization of the human genes for insulin-like growth factors I
RT   and II.";
RL   FEBS Lett. 195:179-184(1986).
RN   [5]
RP   SEQUENCE FROM N.A. (ISOFORM 1).
RX   MEDLINE=87317645; PubMed=3476948;
RA   Irminger J.C., Rosen K.M., Humbel R.E., Villa-Komaroff L.;
RT   "Tissue-specific expression of insulin-like growth factor II mRNAs
RT   with distinct 5' untranslated regions.";
RL   Proc. Natl. Acad. Sci. U.S.A. 84:6330-6334(1987).
RN   [6]
RP   SEQUENCE FROM N.A. (ISOFORM 1).
RX   MEDLINE=88065102; PubMed=3683205;
RA   Rall L.B., Scott J., Bell G.I.;
RT   "Human insulin-like growth factor I and II messenger RNA: isolation
RT   of complementary DNA and analysis of expression.";
RL   Meth. Enzymol. 146:239-248(1987).
RN   [7]
RP   SEQUENCE FROM N.A. (ISOFORMS 1 AND 2).
RX   MEDLINE=85102019; PubMed=3881277;
RA   Jansen M., van Schaik F.M.A., van Tol H., van den Brande J.L.,
RA   Sussenbach J.S.;
RT   "Nucleotide sequences of cDNAs encoding precursors of human
RT   insulin-like growth factor II (IGF-II) and an IGF-II variant.";
RL   FEBS Lett. 179:243-246(1985).
RN   [8]
RP   SEQUENCE FROM N.A. (ISOFORM 1).
RX   MEDLINE=95247546; PubMed=7730145;
RA   Hagiwara K., Kobayashi T., Tobita M., Kikyo N., Yazaki Y., Okabe T.;
RT   "Isolation of a cDNA for a growth factor of vascular endothelial
RT   cells from human lung cancer cells: its identity with insulin-like
RT   growth factor II.";
RL   Jpn. J. Cancer Res. 86:202-207(1995).
RN   [9]
RP   SEQUENCE FROM N.A. (ISOFORM 1).
RA   Rieder M.J., Armel T.Z., Carrington D.P., Ozuna M., Kuldanek S.A.,
RA   Rajkumar N., Toth E.J., Yi Q., Nickerson D.A.;
RL   Submitted (MAY-2002) to the EMBL/GenBank/DDBJ databases.
RN   [10]
RP   SEQUENCE FROM N.A. (ISOFORM 1).
RC   TISSUE=Muscle;
RX   MEDLINE=22388257; PubMed=12477932;
RA   Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA   Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
RA   Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA   Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA   Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA   Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
RA   Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA   Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RA   Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA   Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA   Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA   Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
RA   Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA   Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA   Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA   Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,
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RA   Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.;
RT   "Generation and initial analysis of more than 15,000 full-length
RT   human and mouse cDNA sequences.";
RL   Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
RN   [11]
RP   SEQUENCE OF 103-180 FROM N.A.
RX   MEDLINE=89000779; PubMed=3167054;
RA   de Pagter-Holthuizen P., van der Kammen R.A., Jansen M.,
RA   van Schaik F.M.A., Sussenbach J.S.;
RT   "Differential expression of the human insulin-like growth factor II
RT   gene. Characterization of the IGF-II mRNAs and an mRNA encoding a
RT   putative IGF-II-associated protein.";
RL   Biochim. Biophys. Acta 950:282-295(1988).
RN   [12]
RP   SEQUENCE OF 1-161 FROM N.A. (ISOFORM 2).
RX   MEDLINE=88005137; PubMed=3653397;
RA   le Bouc Y., Noguiez P., Sondermeijer P., Dreyer D., Girard F.,
RA   Binoux M.;
RT   "A new 5'-non-coding region for human placental insulin-like growth
RT   factor II mRNA expression.";
RL   FEBS Lett. 222:181-185(1987).
RN   [13]
RP   SEQUENCE OF 1-52 FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=88003966; PubMed=3652904;
RA   Gray A., Tam A.W., Dull T.J., Hayflick J., Pintar J., Cavenee W.K.,
RA   Koufos A., Ullrich A.;
RT   "Tissue-specific and developmentally regulated transcription of the
RT   insulin-like growth factor 2 gene.";
RL   DNA 6:283-295(1987).
RN   [14]
RP   SEQUENCE OF 25-91.
RX   MEDLINE=78191259; PubMed=658418;
RA   Rinderknecht E., Humbel R.E.;
RT   "Primary structure of human insulin-like growth factor II.";
RL   FEBS Lett. 89:283-286(1978).
RN   [15]
RP   PARTIAL SEQUENCE, AND DISULFIDE BONDS.
RX   MEDLINE=89255428; PubMed=2722836;
RA   Smith M.C., Cook J.A., Furman T.C., Occolowitz J.L.;
RT   "Structure and activity dependence of recombinant human insulin-like
RT   growth factor II on disulfide bond pairing.";
RL   J. Biol. Chem. 264:9314-9321(1989).
RN   [16]
RP   SEQUENCE OF 25-68.
RX   MEDLINE=95360205; PubMed=7633596;
RA   De Ceuninck F., Willeput J., Corvol M.;
RT   "Purification and characterization of insulin-like growth factor II
RT   (IGF II) and an IGF II variant from human placenta.";
RL   J. Chromatogr. B 666:203-214(1995).
RN   [17]
RP   CARBOHYDRATE-LINKAGE SITE THR-99.
RX   MEDLINE=92235026; PubMed=1569071;
RA   Hudgins W.R., Hampton B., Burgess W.H., Perdue J.F.;
RT   "The identification of O-glycosylated precursors of insulin-like
RT   growth factor II.";
RL   J. Biol. Chem. 267:8153-8160(1992).
RN   [18]
RP   3D-STRUCTURE MODELING.
RX   MEDLINE=83210259; PubMed=6189745;
RA   Blundell T.L., Bedarkar S., Humbel R.E.;
RT   "Tertiary structures, receptor binding, and antigenicity of
RT   insulinlike growth factors.";
RL   Fed. Proc. 42:2592-2597(1983).
RN   [19]
RP   STRUCTURE BY NMR.
RX   MEDLINE=95080243; PubMed=7527339;
RA   Terasawa H., Kohda D., Hatanaka H., Nagata K., Higashihashi N.,
RA   Fujiwara H., Sakano K.-I., Inagaki F.;
RT   "Solution structure of human insulin-like growth factor II;
RT   recognition sites for receptors and binding proteins.";
RL   EMBO J. 13:5590-5597(1994).
CC   -!- FUNCTION: The insulin-like growth factors possess growth-promoting
CC       activity. In vitro, they are potent mitogens for cultured cells.
CC       IGF-II is influenced by placental lactogen and may play a role in
CC       fetal development.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- ALTERNATIVE PRODUCTS:
CC       Event=Alternative splicing; Named isoforms=2;
CC       Name=1;
CC         IsoId=P01344-1; Sequence=Displayed;
CC       Name=2;
CC         IsoId=P01344-2; Sequence=VSP_002708;
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------------
DR   EMBL; M14118; AAA52535.1; -.
DR   EMBL; M14116; AAA52535.1; JOINED.
DR   EMBL; M14117; AAA52535.1; JOINED.
DR   EMBL; X03562; CAA27249.1; -.
DR   EMBL; X06159; CAA29516.1; -.
DR   EMBL; X00910; CAA25426.1; -.
DR   EMBL; X06160; CAA29517.1; -.
DR   EMBL; J03242; AAA52545.1; -.
DR   EMBL; X07868; CAA30717.1; -.
DR   EMBL; X03425; CAA27155.1; -.
DR   EMBL; X03426; CAA27156.1; -.

  Query Match             57.9%;  Score 223;  DB 1;  Length 180;
  Best Local Similarity   68.7%;  Pred. No. 2.2e-20;
  Matches   46;  Conservative    4;  Mismatches   11;  Indels    6;  Gaps    3;

Qy          3 ETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMYCA 62
              ||||| |||| ||||||||||||::|      |||:   |||:||||||||  || |||
Db         30 ETLCGGELVDTLQFVCGDRGFYFSRPA--SRVSRRS--RGIVEECCFRSCDLALLETYCA 85

Qy         63 PLKPAKS 69
                ||||
Db         86 --TPAKS 90


RESULT 27
IGF2_CHICK
ID   IGF2_CHICK     STANDARD;      PRT;    66 AA.
AC   P33717;
DT   01-FEB-1994 (Rel. 28, Created)
DT   01-FEB-1994 (Rel. 28, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor II (IGF-II).
GN   IGF2.
OS   Gallus gallus (Chicken).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
OC   Gallus.
OX   NCBI_TaxID=9031;
RN   [1]
RP   SEQUENCE.
RX   MEDLINE=90132351; PubMed=1688912;
RA   Kallincos N.C., Wallace J.C., Francis G.L., Ballard F.J.;
RT   "Chemical and biological characterization of chicken insulin-like
RT   growth factor-II.";
RL   J. Endocrinol. 124:89-97(1990).
RN   [2]
RP   SEQUENCE OF 1-35.
RX   MEDLINE=88244560; PubMed=3379351;
RA   Dawe S.R., Francis G.L., McNamara P.J., Wallace J.C., Ballard F.J.;
RT   "Purification, partial sequences and properties of chicken
RT   insulin-like growth factors.";
RL   J. Endocrinol. 117:173-181(1988).
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CC   -!- FUNCTION: The insulin-like growth factors possess growth-promoting
CC       activity. In vitro, they are potent mitogens for cultured cells.
CC       IGF-II is influenced by placental lactogen and may play a role in
CC       fetal development.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the insulin family.
DR   HSSP; P01344; 1GF2.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Mitogen; Growth factor.
FT   DOMAIN        1     27       B.
FT   DOMAIN       28     39       C.
FT   DOMAIN       40     60       A.
FT   DOMAIN       61     66       D.
FT   DISULFID      8     46       BY SIMILARITY.
FT   DISULFID     20     59       BY SIMILARITY.
FT   DISULFID     45     50       BY SIMILARITY.
SQ   SEQUENCE   66 AA;  7298 MW;  A018C0E71D5EB1E2 CRC64;

  Query Match             57.7%;  Score 222;  DB 1;  Length 66;
  Best Local Similarity   67.2%;  Pred. No. 9.9e-21;
  Matches   45;  Conservative    5;  Mismatches   11;  Indels    6;  Gaps    3;

Qy          3 ETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMYCA 62
              ||||| |||| ||||||||||||::|   | ::||    |||:||||||||  |  |||
Db          5 ETLCGGELVDTLQFVCGDRGFYFSRPV--GRNNRRI--NGIVEECCFRSCDLALLXTYCA 60

Qy         63 PLKPAKS 69
                ||||
Db         61 --TPAKS 65


RESULT 28
IGF2_BOVIN
ID   IGF2_BOVIN     STANDARD;      PRT;   155 AA.
AC   P07456;
DT   01-APR-1988 (Rel. 07, Created)
DT   01-MAY-1992 (Rel. 22, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor II precursor (IGF-II) (Erythrotropin)
DE   (Fragment).
GN   IGF2.
OS   Bos taurus (Bovine).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
OC   Bovidae; Bovinae; Bos.
OX   NCBI_TaxID=9913;
RN   [1]
RP   SEQUENCE OF 6-155 FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=90356421; PubMed=2388846;
RA   Brown W.M., Dziegielewska K.M., Foreman R.C., Saunders N.R.;
RT   "The nucleotide and deduced amino acid sequences of insulin-like
RT   growth factor II cDNAs from adult bovine and fetal sheep liver.";
RL   Nucleic Acids Res. 18:4614-4614(1990).
RN   [2]
RP   SEQUENCE OF 6-62 FROM N.A.
RX   MEDLINE=93083057; PubMed=1280544;
RA   Congote L.F., Mazza L., Palfree R.G.E.;
RT   "Nucleotide sequence of the central coding region of bovine
RT   erythrotropin/insulin-like growth factor II cDNA from fetal intestine
RT   and northern analysis of the major IGF II transcripts at the time of
RT   hepatic erythropoiesis.";
RL   Comp. Biochem. Physiol. 103B:127-131(1992).
RN   [3]
RP   SEQUENCE OF 1-67.
RX   MEDLINE=86085881; PubMed=3941093;
RA   Honegger A., Humbel R.E.;
RT   "Insulin-like growth factors I and II in fetal and adult bovine
RT   serum. Purification, primary structures, and immunological
RT   cross-reactivities.";
RL   J. Biol. Chem. 261:569-575(1986).
RN   [4]
RP   REVISIONS.
RX   MEDLINE=88268820; PubMed=3390164;
RA   Francis G.L., Upton F.M., Ballard F.J., McNeil K.A., Wallace J.C.;
RT   "Insulin-like growth factors 1 and 2 in bovine colostrum. Sequences
RT   and biological activities compared with those of a potent truncated
RT   form.";
RL   Biochem. J. 251:95-103(1988).
RN   [5]
RP   SEQUENCE OF 1-31.
RX   MEDLINE=90147754; PubMed=2302223;
RA   Li Q., Blacher R., Esch F., Congote L.F.;
RT   "A heparin-binding erythroid cell stimulating factor from fetal
RT   bovine serum has the N-terminal sequence of insulin-like growth
RT   factor II.";
RL   Biochem. Biophys. Res. Commun. 166:557-561(1990).
CC   -!- FUNCTION: The insulin-like growth factors possess growth-promoting
CC       activity. In vitro, they are potent mitogens for cultured cells.
CC       IGF-II is influenced by placental lactogen and may play a role in
CC       fetal development.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
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CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; X53553; CAA37620.1; -.
DR   EMBL; X53867; CAA37861.1; -.
DR   PIR; S10983; IGBO2.
DR   HSSP; P01344; 1GF2.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Mitogen; Growth factor.
FT   NON_TER       1      1
FT   CHAIN         1     67       INSULIN-LIKE GROWTH FACTOR II.
FT   DOMAIN        1     28       B.
FT   DOMAIN       29     40       C.
FT   DOMAIN       41     61       A.
FT   DOMAIN       62     67       D.
FT   PROPEP       68    155       E PEPTIDE.
FT   DISULFID      9     47       BY SIMILARITY.
FT   DISULFID     21     60       BY SIMILARITY.
FT   DISULFID     46     51       BY SIMILARITY.
FT   CONFLICT     22     23       GD -> DG (IN REF. 5).
FT   CONFLICT     35     35       I -> S (IN REF. 3).
SQ   SEQUENCE   155 AA;  17261 MW;  50A45E3549397E0F CRC64;

  Query Match             57.7%;  Score 222;  DB 1;  Length 155;
  Best Local Similarity   67.2%;  Pred. No. 2.5e-20;
  Matches   45;  Conservative    3;  Mismatches   13;  Indels    6;  Gaps    2;

Qy          3 ETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMYCA 62
              ||||| |||| ||||||||||||::|    ||       |||:||||||||  || |||
Db          6 ETLCGGELVDTLQFVCGDRGFYFSRP----SSRINRRSRGIVEECCFRSCDLALLETYCA 61

Qy         63 PLKPAKS 69
                ||||
Db         62 --TPAKS 66


RESULT 29
IGF2_SHEEP
ID   IGF2_SHEEP     STANDARD;      PRT;   179 AA.
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AC   P10764;
DT   01-JUL-1989 (Rel. 11, Created)
DT   01-OCT-1989 (Rel. 12, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor II precursor (IGF-II).
GN   IGF2.
OS   Ovis aries (Sheep).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
OC   Bovidae; Caprinae; Ovis.
OX   NCBI_TaxID=9940;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=89345107; PubMed=2762134;
RA   O'Mahoney J.V., Adams T.E.;
RT   "Nucleotide sequence of an ovine insulin-like growth factor-II cDNA.";
RL   Nucleic Acids Res. 17:5392-5392(1989).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=90356421; PubMed=2388846;
RA   Brown W.M., Dziegielewska K.M., Foreman R.C., Saunders N.R.;
RT   "The nucleotide and deduced amino acid sequences of insulin-like
RT   growth factor II cDNAs from adult bovine and fetal sheep liver.";
RL   Nucleic Acids Res. 18:4614-4614(1990).
RN   [3]
RP   SEQUENCE FROM N.A.
RC   STRAIN=Coopworth; TISSUE=Liver;
RX   MEDLINE=93250051; PubMed=8485157;
RA   Demmer J., Hill D.F., Petersen G.B.;
RT   "Characterization of two sheep insulin-like growth factor II cDNAs
RT   with different 5'-untranslated regions.";
RL   Biochim. Biophys. Acta 1173:79-80(1993).
RN   [4]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RA   Ohlsen S.M., Wong E.A.;
RL   Submitted (SEP-1990) to the EMBL/GenBank/DDBJ databases.
RN   [5]
RP   SEQUENCE OF 25-91.
RX   MEDLINE=89136887; PubMed=2537174;
RA   Francis G.L., McNeil K.A., Wallace J.C., Ballard F.J., Owens P.C.;
RT   "Sheep insulin-like growth factors I and II: sequences, activities
RT   and assays.";
RL   Endocrinology 124:1173-1183(1989).
RN   [6]
RP   SEQUENCE OF 25-58.
RX   MEDLINE=89323215; PubMed=2752053;
RA   Hey A.W., Browne C.A., Simpson R.J., Thorburn G.D.;
RT   "Simultaneous isolation of insulin-like growth factors I and II from
RT   adult sheep serum.";
RL   Biochim. Biophys. Acta 997:27-35(1989).
CC   -!- FUNCTION: The insulin-like growth factors possess growth-promoting
CC       activity. In vitro, they are potent mitogens for cultured cells.
CC       IGF-II is influenced by placental lactogen and may play a role in
CC       fetal development.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
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CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; U00668; AAB60626.1; -.
DR   EMBL; U00666; AAB60626.1; JOINED.
DR   EMBL; U00667; AAB60626.1; JOINED.
DR   EMBL; X15248; CAA33324.1; -.
DR   EMBL; X53554; CAA37621.1; -.
DR   EMBL; M89788; AAA31548.1; -.
DR   EMBL; M89789; AAA31549.1; -.
DR   EMBL; X55638; CAA39163.1; -.
DR   PIR; S04858; S04858.
DR   HSSP; P01344; 1GF2.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Mitogen; Growth factor; Signal.
FT   SIGNAL        1     24
FT   CHAIN        25     91       INSULIN-LIKE GROWTH FACTOR II.
FT   DOMAIN       25     52       B.
FT   DOMAIN       53     64       C.
FT   DOMAIN       65     85       A.
FT   DOMAIN       86     91       D.
FT   PROPEP       92    179       E PEPTIDE.
FT   DISULFID     33     71       BY SIMILARITY.
FT   DISULFID     45     84       BY SIMILARITY.
FT   DISULFID     70     75       BY SIMILARITY.
FT   CONFLICT     46     47       GD -> DG (IN REF. 5).
SQ   SEQUENCE   179 AA;  19616 MW;  7B369AE57F2E4378 CRC64;

  Query Match             57.7%;  Score 222;  DB 1;  Length 179;
  Best Local Similarity   67.2%;  Pred. No. 2.9e-20;
  Matches   45;  Conservative    3;  Mismatches   13;  Indels    6;  Gaps    2;

Qy          3 ETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMYCA 62
              ||||| |||| ||||||||||||::|    ||       |||:|||||||||  || |||
Db         30 ETLCGGELVDTLQFVCGDRGFYFSRP----SSRINRRSRGIVEECCFRSCDLALLETYCA 85

Qy         63 PLKPAKS 69
                ||||
Db         86 --APAKS 90


RESULT 30
IGF2_MOUSE
ID   IGF2_MOUSE     STANDARD;      PRT;   180 AA.
AC   P09535;
DT   01-MAR-1989 (Rel. 10, Created)
DT   01-MAR-1989 (Rel. 10, Last sequence update)
DT   15-MAR-2004 (Rel. 43, Last annotation update)
DE   Insulin-like growth factor II precursor (Multiplication stimulating
DE   polypeptide) (IGF-II).
GN   IGF2 OR IGF-2.
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=87053171; PubMed=3780370;
RA   Stempien M.M., Fong N.M., Rall L.B., Bell G.I.;
RT   "Sequence of a placental cDNA encoding the mouse insulin-like growth
RT   factor II precursor.";
RL   DNA 5:357-361(1986).
RN   [2]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=91090843; PubMed=1702294;
RA   Rotwein P., Hall L.J.;
RT   "Evolution of insulin-like growth factor II: characterization of the
RT   mouse IGF-II gene and identification of two pseudo-exons.";
RL   DNA Cell Biol. 9:725-735(1990).
RN   [3]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=97191545; PubMed=9039503;
RA   Sasaki H., Shimozaki K., Zubair M., Aoki N., Hatano N., Moore T.,
RA   Feil R., Constancia M., Reik W., Rotwein P.;
RT   "Nucleotide sequence of a 28-kb mouse genomic region comprising the
RT   imprinted Igf2 gene.";
RL   DNA Res. 3:331-335(1996).
```

```
RN   [4]
RP   SEQUENCE FROM N.A.
RC   STRAIN=C57BL/6J; TISSUE=Embryo;
RX   MEDLINE=22388257; PubMed=12477932;
RA   Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA   Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
RA   Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA   Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA   Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA   Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
RA   Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA   Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RA   Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA   Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA   Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA   Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
RA   Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA   Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA   Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA   Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,
RA   Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.;
RT   "Generation and initial analysis of more than 15,000 full-length
RT   human and mouse cDNA sequences.";
RL   Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
RN   [5]
RP   SEQUENCE OF 1-52 FROM N.A.
RX   MEDLINE=89160812; PubMed=2537977;
RA   Tollefsen S.E., Sadow J.L., Rotwein P.;
RT   "Coordinate expression of insulin-like growth factor II and its
RT   receptor during muscle differentiation.";
RL   Proc. Natl. Acad. Sci. U.S.A. 86:1543-1547(1989).
CC   -!- FUNCTION: The insulin-like growth factors possess growth-promoting
CC       activity. In vitro, they are potent mitogens for cultured cells.
CC       IGF-II is influenced by placental lactogen and may play a role
CC       in fetal development.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- DEVELOPMENTAL STAGE: Low levels of expression during myoblast
CC       proliferation. Levels rise rapidly during myoblast differentiation
CC       and then decrease.
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; M14951; AAA37683.1; -.
DR   EMBL; M36332; AAA37926.1; -.
DR   EMBL; M36331; AAA37926.1; JOINED.
DR   EMBL; U71085; AAC53516.1; -.
DR   EMBL; BC053489; AAH53489.1; -.
DR   EMBL; M24633; AAA37923.1; -.
DR   PIR; A24913; A24913.
DR   HSSP; P01344; 1GF2.
DR   MGD; MGI:96434; Igf2.
DR   GO; GO:0009887; P:organogenesis; IMP.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Mitogen; Growth factor; Signal.
FT   SIGNAL       1     24
FT   CHAIN       25     91       INSULIN-LIKE GROWTH FACTOR II.
FT   DOMAIN      25     52       B.
FT   DOMAIN      53     64       C.
FT   DOMAIN      65     85       A.
FT   DOMAIN      86     91       D.
FT   PROPEP      92    180       E PEPTIDE.
FT   DISULFID    33     71       BY SIMILARITY.
FT   DISULFID    45     84       BY SIMILARITY.
FT   DISULFID    70     75       BY SIMILARITY.
SQ   SEQUENCE   180 AA;  20030 MW;  01730F8856EE6D7B CRC64;

  Query Match             57.3%;  Score 220.5;  DB 1;  Length 180;
  Best Local Similarity   65.7%;  Pred. No. 4.4e-20;
  Matches   46;  Conservative    3;  Mismatches   14;  Indels    7;  Gaps    3;

Qy          1 GP-ETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEM 59
              || ||||| |||| ||||| |||||||::|    ||       |||:|||||||||  ||
Db         27 GPGETLCGGELVDTLQFVCSDRGFYFSRP----SSRANRRSRGIVEECCFRSCDLALLET 82

Qy         60 YCAPLKPAKS 69
              |||   ||||
Db         83 YCA--TPAKS 90


RESULT 31
IGF2_HORSE
ID   IGF2_HORSE     STANDARD;      PRT;   181 AA.
AC   P51459; O18837;
DT   01-OCT-1996 (Rel. 34, Created)
DT   15-JUL-1998 (Rel. 36, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor II precursor (IGF-II) (Somatomedin A).
GN   IGF2.
OS   Equus caballus (Horse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Perissodactyla; Equidae; Equus.
OX   NCBI_TaxID=9796;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=97398492; PubMed=9250862;
RA   Raudsepp T., Otte K., Rozell B., Chowdhary B.P.;
RT   "FISH mapping of the IGF2 gene in horse and donkey-detection of
RT   homoeology with HSA11.";
RL   Mamm. Genome 8:569-572(1997).
RN   [2]
RP   SEQUENCE OF 25-117 FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=95154655; PubMed=7851727;
RA   Otte K., Engstrom W.;
RT   "Insulin-like growth factor II in the horse: determination of a cDNA
RT   nucleotide sequence and expression in fetal and adult tissue.";
RL   Gen. Comp. Endocrinol. 96:270-275(1994).
CC   -!- FUNCTION: The insulin-like growth factors possess growth-promoting
CC       activity. In vitro, they are potent mitogens for cultured cells.
CC       IGF-II is influenced by placental lactogen and may play a role in
CC       fetal development.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
CC   This SWISS-PROT entry is copyright. It is produced through a collaboration
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CC   use by non-profit institutions as long as its content is in no way
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CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; AF020599; AAC48807.1; -.
DR   EMBL; U11241; AAA73915.1; -.
DR   PIR; I53642; I53642.
DR   HSSP; P01344; 1GF2.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Mitogen; Growth factor; Signal.
FT   SIGNAL       1     24       BY SIMILARITY.
FT   CHAIN       25     91       INSULIN-LIKE GROWTH FACTOR II.
FT   DOMAIN      25     52       B.
```

```
FT   DOMAIN       53     64       C.
FT   DOMAIN       65     85       A.
FT   DOMAIN       86     91       D.
FT   PROPEP       92    181       E PEPTIDE.
FT   DISULFID     33     71       BY SIMILARITY.
FT   DISULFID     45     84       BY SIMILARITY.
FT   DISULFID     70     75       BY SIMILARITY.
FT   CONFLICT    111    111       V -> G (IN REF. 2).
FT   CONFLICT    113    113       L -> R (IN REF. 2).
SQ   SEQUENCE   181 AA;  20360 MW;  B88F96951C87AA12 CRC64;

  Query Match             57.1%;  Score 220;  DB 1;  Length 181;
  Best Local Similarity   67.2%;  Pred. No. 5.1e-20;
  Matches   45;  Conservative    5;  Mismatches   11;  Indels    6;  Gaps    3;

Qy          3 ETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMYCA 62
              ||||| |||| ||||||||||||::|      :||:   |||:|||||||||  || |||
Db         30 ETLCGGELVDTLQFVCGDRGFYFSRPA--SRINRRS--RGIVEECCFRSCDLALLETYCA 85

Qy         63 PLKPAKS 69
                ||||
Db         86 --TPAKS 90


RESULT 32
IGF2_PIG
ID   IGF2_PIG       STANDARD;      PRT;   181 AA.
AC   P23695;
DT   01-NOV-1991 (Rel. 20, Created)
DT   01-FEB-1996 (Rel. 33, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor II precursor (IGF-II).
GN   IGF2.
OS   Sus scrofa (Pig).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
OX   NCBI_TaxID=9823;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=91057136; PubMed=2243790;
RA   Catchpole I.R., Engstroem W.;
RT   "Nucleotide sequence of a porcine insulin-like growth factor II
RT   cDNA.";
RL   Nucleic Acids Res. 18:6430-6430(1990).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   STRAIN=Large white;
RX   MEDLINE=22135958; PubMed=12140686;
RA   Amarger V., Nguyen M., Laere A.S., Braunschweig M., Nezer C.,
RA   Georges M., Andersson L.;
RT   "Comparative sequence analysis of the INS-IGF2-H19 gene cluster in
RT   pigs.";
RL   Mamm. Genome 13:388-398(2002).
RN   [3]
RP   SEQUENCE OF 25-91.
RX   MEDLINE=90039035; PubMed=2809477;
RA   Francis G.L., Owens P.C., McNeil K.A., Wallace J.C., Ballard F.J.;
RT   "Purification, amino acid sequences and assay cross-reactivities of
RT   porcine insulin-like growth factor-I and -II.";
RL   J. Endocrinol. 122:681-687(1989).
CC   -!- FUNCTION: The insulin-like growth factors possess growth-promoting
CC       activity. In vitro, they are potent mitogens for cultured cells.
CC       IGF-II is influenced by placental lactogen and may play a role in
CC       fetal development.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
CC   This SWISS-PROT entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use by non-profit institutions as long as its content is in no way
CC   modified and this statement is not removed. Usage by and for commercial
CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; X56094; CAA39574.1; -.
DR   EMBL; AY044828; AAL69551.1; -.
DR   HSSP; P01344; 1GF2.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Mitogen; Growth factor; Signal.
FT   SIGNAL        1     24       BY SIMILARITY.
FT   CHAIN        25     91       INSULIN-LIKE GROWTH FACTOR II.
FT   DOMAIN       25     52       B.
FT   DOMAIN       53     64       C.
FT   DOMAIN       65     85       A.
FT   DOMAIN       86     91       D.
FT   PROPEP       92    181       E PEPTIDE.
FT   DISULFID     33     71       BY SIMILARITY.
FT   DISULFID     45     84       BY SIMILARITY.
FT   DISULFID     70     75       BY SIMILARITY.
SQ   SEQUENCE   181 AA;  20312 MW;  1816B935299B44E1 CRC64;

  Query Match             57.1%;  Score 220;  DB 1;  Length 181;
  Best Local Similarity   67.2%;  Pred. No. 5.1e-20;
  Matches   45;  Conservative    5;  Mismatches   11;  Indels    6;  Gaps    3;

Qy          3 ETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMYCA 62
              ||||| |||| ||||||||||||::|      :||:   |||:|||||||||  || |||
Db         30 ETLCGGELVDTLQFVCGDRGFYFSRPA--SRVNRRS--RGIVEECCFRSCDLALLETYCA 85

Qy         63 PLKPAKS 69
                ||||
Db         86 --TPAKS 90


RESULT 33
IGF2_RAT
ID   IGF2_RAT       STANDARD;      PRT;   180 AA.
AC   P01346;
DT   21-JUL-1986 (Rel. 01, Created)
DT   20-MAR-1987 (Rel. 04, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor II precursor (Multiplication stimulating
DE   polypeptide) (IGF-II) (Multiplication stimulating activity) (MSA).
GN   IGF2 OR IGF-2.
OS   Rattus norvegicus (Rat).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX   NCBI_TaxID=10116;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=BRL-3A;
RX   MEDLINE=84295593; PubMed=6382022;
RA   Dull T.J., Gray A., Hayflick J.S., Ullrich A.;
RT   "Insulin-like growth factor II precursor gene organization in
RT   relation to insulin gene family.";
RL   Nature 310:777-781(1984).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   STRAIN=Buffalo;
RX   MEDLINE=85215534; PubMed=3889836;
RA   Soares M.B., Ishii D.N., Efstratiadis A.;
RT   "Developmental and tissue-specific expression of a family of
RT   transcripts related to rat insulin-like growth factor II mRNA.";
RL   Nucleic Acids Res. 13:1119-1134(1985).
RN   [3]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=87226166; PubMed=2438416;
RA   Soares M.B., Turken A., Ishii D.N., Mills L., Episkopou V., Cotter S.,
RA   Zeitlin S., Efstratiadis A.;
RT   "Rat insulin-like growth factor II gene. A single gene with two
RT   promoters expressing a multitranscript family.";
```

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RL   J. Mol. Biol. 192:737-752(1986).
RN   [4]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=87057436; PubMed=3023383;
RA   Frunzio R., Chiariotti L., Brown A.L., Graham D.E., Rechler M.M.,
RA   Bruni C.B.;
RT   "Structure and expression of the rat insulin-like growth factor II
RT   (rIGF-II) gene. rIGF-II RNAs are transcribed from two promoters.";
RL   J. Biol. Chem. 261:17138-17149(1986).
RN   [5]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=89000793; PubMed=3167060;
RA   Ueno T., Takahashi K., Matsuguchi T., Endo H., Yamamoto M.;
RT   "Transcriptional deviation of the rat insulin-like growth factor II
RT   gene initiated at three alternative leader-exons between neonatal
RT   tissues and ascites hepatomas.";
RL   Biochim. Biophys. Acta 950:411-419(1988).
RN   [6]
RP   SEQUENCE OF 62-180 FROM N.A.
RX   MEDLINE=85061532; PubMed=6390212;
RA   Whitfield H.J., Bruni C.B., Frunzio R., Terrell J.E.,
RA   Nissley S.P., Rechler M.M.;
RT   "Isolation of a cDNA clone encoding rat insulin-like growth factor-II
RT   precursor.";
RL   Nature 312:277-280(1984).
RN   [7]
RP   SEQUENCE OF 103-180 FROM N.A.
RX   MEDLINE=89127259; PubMed=3221878;
RA   Chiariotti L., Brown A.L., Frunzio R., Clemmons D.R., Rechler M.M.,
RA   Bruni C.B.;
RT   "Structure of the rat insulin-like growth factor II transcriptional
RT   unit: heterogeneous transcripts are generated from two promoters by
RT   use of multiple polyadenylation sites and differential ribonucleic
RT   acid splicing.";
RL   Mol. Endocrinol. 2:1115-1126(1988).
RN   [8]
RP   SEQUENCE OF 25-91.
RX   MEDLINE=81215670; PubMed=7016879;
RA   Marquardt H., Todaro G.J., Henderson L.E., Oroszlan S.;
RT   "Purification and primary structure of a polypeptide with
RT   multiplication-stimulating activity from rat liver cell cultures.
RT   Homology with human insulin-like growth factor II.";
RL   J. Biol. Chem. 256:6859-6865(1981).
CC   -!- FUNCTION: The insulin-like growth factors possess growth-promoting
CC       activity. In vitro, they are potent mitogens for cultured cells.
CC       IGF-II is influenced by placental lactogen and may play a role in
CC       fetal development.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
CC   This SWISS-PROT entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
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CC   use by non-profit institutions as long as its content is in no way
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CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; X00911; CAA25428.1; -.
DR   EMBL; X00911; CAA25427.1; ALT_INIT.
DR   EMBL; X00911; CAA25429.1; ALT_INIT.
DR   EMBL; M13871; AAB95624.1; ALT_INIT.
DR   EMBL; M13869; AAB95624.1; JOINED.
DR   EMBL; M13870; AAB95624.1; JOINED.
DR   EMBL; M29880; AAA41391.1; -.
DR   EMBL; M29879; AAA41391.1; JOINED.
DR   EMBL; X02213; CAA26136.1; -.
DR   EMBL; X13101; CAA31493.1; -.
DR   EMBL; X14833; CAA32942.1; -.
DR   EMBL; X14834; CAA32943.1; -.
DR   EMBL; M30273; AAA41432.1; -.
DR   EMBL; M31221; AAA42046.1; -.
DR   PIR; A25350; IGRT2.
DR   HSSP; P01344; 1GF2.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Mitogen; Growth factor; Signal.
FT   SIGNAL       1     24
FT   CHAIN       25     91       INSULIN-LIKE GROWTH FACTOR II.
FT   DOMAIN      25     52       B.
FT   DOMAIN      53     64       C.
FT   DOMAIN      65     85       A.
FT   DOMAIN      86     91       D.
FT   PROPEP      92    180       E PEPTIDE.
FT   DISULFID    33     71       BY SIMILARITY.
FT   DISULFID    45     84       BY SIMILARITY.
FT   DISULFID    70     75       BY SIMILARITY.
FT   CONFLICT     1      8       MISSING (IN REF. 2).
FT   CONFLICT    57     57       S -> G (IN REF. 3).
SQ   SEQUENCE   180 AA;  20086 MW;  AF12B4EEC0DBCC34 CRC64;

  Query Match             56.6%;  Score 218;  DB 1;  Length 180;
  Best Local Similarity   65.7%;  Pred. No. 9e-20;
  Matches   44;  Conservative    3;  Mismatches   14;  Indels    6;  Gaps    2;

Qy          3 ETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMYCA 62
              ||||| |||| ||||| ||||||::|    ||       |||:||||||||  || |||
Db         30 ETLCGGELVDTLQFVCSDRGFYFSRP----SSRANRRSRGIVEECCFRSCDLALLETYCA 85

Qy         63 PLKPAKS 69
              ||||
Db         86 --TPAKS 90


RESULT 34
IGF_MYXGL
ID   IGF_MYXGL      STANDARD;      PRT;   139 AA.
AC   P22618;
DT   01-MAY-1991 (Rel. 18, Created)
DT   01-MAY-1991 (Rel. 18, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor precursor (IGF) (Fragment).
OS   Myxine glutinosa (Atlantic hagfish).
OC   Eukaryota; Metazoa; Chordata; Craniata; Hyperotreti; Myxiniformes;
OC   Myxinidae; Myxininae; Myxine.
OX   NCBI_TaxID=7769;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=91115860; PubMed=1989990;
RA   Nagamatsu S., Chan S.J., Falkmer S., Steiner D.F.;
RT   "Evolution of the insulin gene superfamily. Sequence of a
RT   preproinsulin-like growth factor cDNA from the Atlantic hagfish.";
RL   J. Biol. Chem. 266:2397-2402(1991).
CC   -!- FUNCTION: The insulin-like growth factors, isolated from plasma,
CC       are structurally and functionally related to insulin but have a
CC       much higher growth-promoting activity.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
CC   This SWISS-PROT entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use by non-profit institutions as long as its content is in no way
CC   modified and this statement is not removed. Usage by and for commercial
CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; M57735; AAA49265.1; -.
DR   PIR; A38612; A38612.
DR   HSSP; P01344; 1GF2.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
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DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Mitogen; Growth factor; Signal.
FT   NON_TER       1      1
FT   SIGNAL       <1     38
FT   CHAIN        39    139       INSULIN-LIKE GROWTH FACTOR.
FT   DOMAIN       39     67       B.
FT   DOMAIN       68     82       C.
FT   DOMAIN       83    103       A.
FT   DOMAIN      104    113       D.
FT   DOMAIN      114    139       E.
SQ   SEQUENCE   139 AA;  16087 MW;  2FC888C8D074FAC1 CRC64;

  Query Match             53.6%;  Score 206.5;  DB 1;  Length 139;
  Best Local Similarity   57.1%;  Pred. No. 1.8e-18;
  Matches   40;  Conservative   10;  Mismatches   15;  Indels    5;  Gaps    2;

Qy          3 ETLCGAELVDALQFVCGDRGFYF---NKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEM 59
              |||||:|||| ||||| ||||:|   : |   |:  |   : |||:||||: | || |||
Db         41 ETLCGSELVDTLQFVCDDRGFFFVPQHVPPRRGAHRRSRARKGIVEECCFKGCSLRLLEM 100

Qy         60 YCAPLKPAKS 69
              |||  :|:|:
Db        101 YCA--RPSKA 108


RESULT 35
INS_MYOSC
ID   INS_MYOSC      STANDARD;      PRT;    50 AA.
AC   P07453;
DT   01-APR-1988 (Rel. 07, Created)
DT   01-APR-1988 (Rel. 07, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin.
GN   INS.
OS   Myoxocephalus scorpius (Shorthorn sculpin) (Daddy sculpin).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Scorpaeniformes;
OC   Cottoidei; Cottidae; Myoxocephalus.
OX   NCBI_TaxID=8097;
RN   [1]
RP   SEQUENCE.
RX   MEDLINE=86274667; PubMed=3525155;
RA   Cutfield J.F., Cutfield S.M., Carne A., Emdin S.O., Falkmer S.;
RT   "The isolation, purification and amino-acid sequence of insulin from
RT   the teleost fish Cottus scorpius (daddy sculpin).";
RL   Eur. J. Biochem. 158:117-123(1986).
CC   -!- FUNCTION: Insulin decreases blood glucose concentration. It
CC       increases cell permeability to monosaccharides, amino acids and
CC       fatty acids. It accelerates glycolysis, the pentose phosphate
CC       cycle, and glycogen synthesis in liver.
CC   -!- SUBUNIT: Heterodimer of a B chain and an A chain linked by two
CC       disulfide bonds.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the insulin family.
DR   PIR; A25061; INFIS.
DR   HSSP; P01308; 1LPH.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Hormone; Glucose metabolism.
FT   CHAIN         1     29       INSULIN B CHAIN.
FT   NON_CONS     29     30
FT   CHAIN        30     50       INSULIN A CHAIN.
FT   DISULFID      7     36       INTERCHAIN.
FT   DISULFID     19     49       INTERCHAIN.
FT   DISULFID     35     40
SQ   SEQUENCE   50 AA;  5682 MW;  0A600B9EBFE15827 CRC64;

  Query Match             41.4%;  Score 159.5;  DB 1;  Length 50;
  Best Local Similarity   48.3%;  Pred. No. 3.8e-13;
  Matches   29;  Conservative    8;  Mismatches   10;  Indels   13;  Gaps    1;

Qy          2 PETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMYC 61
              |: |||: ||||| |||||||::|              |||::|| | |::| || ||
Db          3 PQHLCGSHLVDALYLVCGDRGFFYN------------PKGIVEQCCHRPCNIRVLENYC 49


RESULT 36
INS_GADCA
ID   INS_GADCA      STANDARD;      PRT;    51 AA.
AC   P01336;
DT   21-JUL-1986 (Rel. 01, Created)
DT   21-JUL-1986 (Rel. 01, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin.
GN   INS.
OS   Gadus callarias (Baltic cod).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Paracanthopterygii; Gadiformes; Gadidae; Gadus.
OX   NCBI_TaxID=8053;
RN   [1]
RP   SEQUENCE.
RX   MEDLINE=69061739; PubMed=4881974;
RA   Reid K.B.M., Grant P.T., Youngson A.;
RT   "The sequence of amino acids in insulin isolated from islet tissue of
RT   the cod (Gadus callarias).";
RL   Biochem. J. 110:289-296(1968).
RN   [2]
RP   PARTIAL SEQUENCE.
RX   MEDLINE=68131535; PubMed=4866431;
RA   Grant P.T., Reid K.B.M.;
RT   "Isolation and a partial amino acid sequence of insulin from the
RT   islet tissue of cod (Gadus callarias).";
RL   Biochem. J. 106:531-541(1968).
CC   -!- FUNCTION: Insulin decreases blood glucose concentration. It
CC       increases cell permeability to monosaccharides, amino acids and
CC       fatty acids. It accelerates glycolysis, the pentose phosphate
CC       cycle, and glycogen synthesis in liver.
CC   -!- SUBUNIT: Heterodimer of a B chain and an A chain linked by two
CC       disulfide bonds.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the insulin family.
DR   HSSP; P01308; 1LPH.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Hormone; Glucose metabolism.
FT   CHAIN         1     30       INSULIN B CHAIN.
FT   NON_CONS     30     31
FT   CHAIN        31     51       INSULIN A CHAIN.
FT   DISULFID      8     37       INTERCHAIN.
FT   DISULFID     20     50       INTERCHAIN.
FT   DISULFID     36     41
SQ   SEQUENCE   51 AA;  5789 MW;  A51FD0C5D483705A CRC64;

  Query Match             41.2%;  Score 158.5;  DB 1;  Length 51;
  Best Local Similarity   48.3%;  Pred. No. 5.2e-13;
  Matches   29;  Conservative    7;  Mismatches   11;  Indels   13;  Gaps    1;

Qy          2 PETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMYC 61
              |: |||: ||||| |||||||::|              ||||:|| | ||:  |: ||
Db          4 PQHLCGSHLVDALYLVCGDRGFFYN------------PKGIVDQCCHRPCDIFDLQNYC 50


RESULT 37
INS1_BATSP
ID   INS1_BATSP     STANDARD;      PRT;    51 AA.
AC   P01337;
DT   21-JUL-1986 (Rel. 01, Created)
DT   21-JUL-1986 (Rel. 01, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
```

```
DE   Insulin 1.
OS   Batrachoididae sp. (Toadfish).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Paracanthopterygii; Batrachoididae.
OX   NCBI_TaxID=8066;
RN   [1]
RP   SEQUENCE.
RX   MEDLINE=66160119; PubMed=5949593;
RA   Smith L.F.;
RT   "Species variation in the amino acid sequence of insulin.";
RL   Am. J. Med. 40:662-666(1966).
CC   -!- FUNCTION: Insulin decreases blood glucose concentration. It
CC       increases cell permeability to monosaccharides, amino acids and
CC       fatty acids. It accelerates glycolysis, the pentose phosphate
CC       cycle, and glycogen synthesis in liver.
CC   -!- SUBUNIT: Heterodimer of a B chain and an A chain linked by two
CC       disulfide bonds.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the insulin family.
DR   PIR; A01604; INTF1.
DR   HSSP; P01308; 1LPH.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Hormone; Glucose metabolism.
FT   CHAIN         1     30       INSULIN B CHAIN.
FT   NON_CONS     30     31
FT   CHAIN        31     51       INSULIN A CHAIN.
FT   DISULFID      8     37       INTERCHAIN.
FT   DISULFID     20     50       INTERCHAIN.
FT   DISULFID     36     41
SQ   SEQUENCE   51 AA;  5776 MW;  A51E0BA42483705A CRC64;

  Query Match             40.4%;  Score 155.5;  DB 1;  Length 51;
  Best Local Similarity   46.7%;  Pred. No. 1.2e-12;
  Matches   28;  Conservative    8;  Mismatches   11;  Indels   13;  Gaps    1;

Qy          2 PETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMYC 61
              |: |||: |||||  |||||||::|              |||::|| | ||:  |: ||
Db          4 PQHLCGSHLVDALYLVCGDRGFFYN------------PKGIVEQCCHRPCDIFDLQSYC 50


RESULT 38
INS2_BATSP
ID   INS2_BATSP     STANDARD;      PRT;    50 AA.
AC   P01338;
DT   21-JUL-1986 (Rel. 01, Created)
DT   21-JUL-1986 (Rel. 01, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin 2.
OS   Batrachoididae sp. (Toadfish).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Paracanthopterygii; Batrachoididae.
OX   NCBI_TaxID=8066;
RN   [1]
RP   SEQUENCE.
RX   MEDLINE=66160119; PubMed=5949593;
RA   Smith L.F.;
RT   "Species variation in the amino acid sequence of insulin.";
RL   Am. J. Med. 40:662-666(1966).
CC   -!- FUNCTION: Insulin decreases blood glucose concentration. It
CC       increases cell permeability to monosaccharides, amino acids and
CC       fatty acids. It accelerates glycolysis, the pentose phosphate
CC       cycle, and glycogen synthesis in liver.
CC   -!- SUBUNIT: Heterodimer of a B chain and an A chain linked by two
CC       disulfide bonds.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the insulin family.
DR   PIR; A01605; INTO2.
DR   HSSP; P01308; 1AI0.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Hormone; Glucose metabolism.
FT   CHAIN         1     29       INSULIN B CHAIN.
FT   NON_CONS     29     30
FT   CHAIN        30     50       INSULIN A CHAIN.
FT   DISULFID      8     36       INTERCHAIN.
FT   DISULFID     20     49       INTERCHAIN.
FT   DISULFID     35     40
SQ   SEQUENCE   50 AA;  5652 MW;  903E8AACBD62137C CRC64;

  Query Match             40.0%;  Score 154;  DB 1;  Length 50;
  Best Local Similarity   46.7%;  Pred. No. 1.8e-12;
  Matches   28;  Conservative    8;  Mismatches   10;  Indels   14;  Gaps    1;

Qy          2 PETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMYC 61
              |: |||: |||||  |||||||::|              :|||::|| | ||   |: ||
Db          4 PQHLCGSHLVDALYLVCGDRGFFYN-------------SGIVEQCCHRPCDKFDLQSYC 49


RESULT 39
INS_HYDCO
ID   INS_HYDCO      STANDARD;      PRT;    59 AA.
AC   P09536;
DT   01-MAR-1989 (Rel. 10, Created)
DT   01-MAR-1989 (Rel. 10, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin.
GN   INS.
OS   Hydrolagus colliei (Spotted ratfish) (Pacific ratfish), and
OS   Chimaera monstrosa (Rabbit fish).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Chondrichthyes;
OC   Holocephali; Chimaeriformes; Chimaeridae; Hydrolagus.
OX   NCBI_TaxID=7873, 7871;
RN   [1]
RP   SEQUENCE.
RC   SPECIES=H.colliei;
RX   MEDLINE=87054620; PubMed=3780981;
RA   Conlon J.M., Dafgard E., Falkmer S., Thim L.;
RT   "The primary structure of ratfish insulin reveals an unusual mode of
RT   proinsulin processing.";
RL   FEBS Lett. 208:445-450(1986).
RN   [2]
RP   SEQUENCE.
RC   SPECIES=H.colliei;
RX   MEDLINE=89153911; PubMed=2646172;
RA   Conlon J.M., Goeke R., Andrews P.C., Thim L.;
RT   "Multiple molecular forms of insulin and glucagon-like peptide from
RT   the Pacific ratfish (Hydrolagus colliei).";
RL   Gen. Comp. Endocrinol. 73:136-146(1989).
RN   [3]
RP   SEQUENCE.
RC   SPECIES=C.monstrosa;
RX   MEDLINE=89031910; PubMed=3053327;
RA   Conlon J.M., Andrews P.C., Falkmer S., Thim L.;
RT   "Isolation and structural characterization of insulin from the
RT   holocephalan fish, Chimaera monstrosa (rabbit fish).";
RL   Gen. Comp. Endocrinol. 72:154-160(1988).
CC   -!- FUNCTION: Insulin decreases blood glucose concentration. It
CC       increases cell permeability to monosaccharides, amino acids and
CC       fatty acids. It accelerates glycolysis, the pentose phosphate
CC       cycle, and glycogen synthesis in liver.
CC   -!- SUBUNIT: Heterodimer of a B chain and an A chain linked by two
CC       disulfide bonds.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- MISCELLANEOUS: DUE TO A SUBSTITUTION OF THE ARG IN POSITION 31 BY
CC       AN ILE, THIS INSULIN B CHAIN IS LONGER THAN MOST OTHER B CHAINS
CC       AND IS PROCESSED DIFFERENTLY.
CC   -!- SIMILARITY: Belongs to the insulin family.
DR   PIR; S06420; INRQ.
DR   PIR; S06474; INFI.
```

```
DR   HSSP; P01308; 1HIS.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Hormone; Glucose metabolism.
FT   CHAIN         1     38       INSULIN B CHAIN.
FT   NON_CONS     38     39
FT   CHAIN        39     59       INSULIN A CHAIN.
FT   DISULFID      7     45       INTERCHAIN.
FT   DISULFID     19     58       INTERCHAIN.
FT   DISULFID     44     49
SQ   SEQUENCE   59 AA;  6606 MW;  8827A57A9ED6D4AC CRC64;

  Query Match             39.2%;  Score 151;  DB 1;  Length 59;
  Best Local Similarity   48.3%;  Pred. No. 5.1e-12;
  Matches   29;  Conservative    9;  Mismatches   16;  Indels    6;  Gaps    2;

Qy          3 ETLCGAELVDALQFVCGDRGFYFN-KPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMYC 61
              : |||: ||||| ||||:|||::: ||         |  |||::||  :| |  || ||
Db          4 QRLCGSHLVDALYFVCGERGFFYSPKPI-----RELEPLLGIVEQCCHNTCSLANLEGYC 58


RESULT 40
INS_CHIBR
ID   INS_CHIBR      STANDARD;      PRT;    51 AA.
AC   P01327;
DT   21-JUL-1986 (Rel. 01, Created)
DT   21-JUL-1986 (Rel. 01, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin.
GN   INS.
OS   Chinchilla brevicaudata (Chinchilla).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Hystricognathi; Chinchillidae;
OC   Chinchilla.
OX   NCBI_TaxID=10152;
RN   [1]
RP   SEQUENCE.
RX   MEDLINE=76022416; PubMed=1175610;
RA   Wood S.P., Blundell T.L., Wollmer A., Lazarus N.R., Neville R.W.J.;
RT   "The relation of conformation and association of insulin to receptor
RT   binding; X-ray and circular-dichroism studies on bovine and
RT   hystricomorph insulins.";
RL   Eur. J. Biochem. 55:531-542(1975).
CC   -!- FUNCTION: Insulin decreases blood glucose concentration. It
CC       increases cell permeability to monosaccharides, amino acids and
CC       fatty acids. It accelerates glycolysis, the pentose phosphate
CC       cycle, and glycogen synthesis in liver.
CC   -!- SUBUNIT: Heterodimer of a B chain and an A chain linked by two
CC       disulfide bonds.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the insulin family.
DR   PIR; A01593; INCB.
DR   HSSP; P01308; 1A7F.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Hormone; Glucose metabolism.
FT   CHAIN         1     30       INSULIN B CHAIN.
FT   NON_CONS     30     31
FT   CHAIN        31     51       INSULIN A CHAIN.
FT   DISULFID      7     37       INTERCHAIN (BY SIMILARITY).
FT   DISULFID     19     50       INTERCHAIN (BY SIMILARITY).
FT   DISULFID     36     41       BY SIMILARITY.
SQ   SEQUENCE   51 AA;  5741 MW;  8F7EC904691A78A0 CRC64;

  Query Match             38.7%;  Score 149;  DB 1;  Length 51;
  Best Local Similarity   49.1%;  Pred. No. 7.7e-12;
  Matches   28;  Conservative    5;  Mismatches   12;  Indels   12;  Gaps    1;

Qy          5 LCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMYC 61
              |||: |||||  |||||||::           |  ||||:||   | | :|| ||
Db          6 LCGSHLVDALYLVCGDRGFFY-----------TPMAGIVDQCCTSICTLYQLENYC 50


Search completed: February 25, 2004, 06:23:02
Job time : 11.7299 secs
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GenCore version 5.1.6

protein - protein search, using sw model

n on: February 25, 2004, 06:20:08 ; Search time 13.7956 Seconds
(without alignments)
488.083 Million cell updates/sec

tle: US-10-066-009A-1
rfect score: 385
quence: 1 GPETLCGAELVDALQFVCGD.....SCDLRRLEMYCAPLKPAKSA 70

oring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

arched: 283366 seqs, 96191526 residues

tal number of hits satisfying chosen parameters: 283366

nimum DB seq length: 0
ximum DB seq length: 2000000000

st-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

tabase : PIR_78:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

sult No.	Score	% Query Match	Length	DB	ID	Description
1	385	100.0	122	2	PN0622	insulin-like growt
2	385	100.0	137	1	IGGP1	insulin-like growt
3	385	100.0	137	2	A36552	insulin-like growt
4	385	100.0	153	1	IGHU1	insulin-like growt
5	385	100.0	153	1	IGBO1	insulin-like growt
6	385	100.0	153	2	S12825	insulin-like growt
7	385	100.0	195	1	IGHU1B	insulin-like growt
8	381	99.0	154	2	JC2483	insulin-like growt
9	377	97.9	138	2	S22878	insulin-like growt
10	377	97.9	154	2	A33390	insulin-like growt
11	368	95.6	153	2	B27804	insulin-like growt
12	368	95.6	159	2	A26859	insulin-like growt
13	368	95.6	181	2	A27804	insulin-like growt
14	365	94.8	127	2	A25540	insulin-like growt
15	350	90.9	127	2	B40912	insulin-like growt
16	350	90.9	133	2	A40912	insulin-like growt
17	344	89.4	153	2	A41399	insulin-like growt
18	334	86.8	153	2	A36079	insulin-like growt
19	318	82.6	149	2	D54270	insulin-like growt
20	318	82.6	155	2	C44012	insulin-like growt
21	318	82.6	161	2	C54270	insulin-like growt
22	318	82.6	176	2	A41396	insulin-like growt
23	318	82.6	176	2	A46244	insulin-like growt
24	318	82.6	188	2	A54270	insulin-like growt
25	318	82.6	188	2	B54270	insulin-like growt
26	278.5	72.3	126	2	S66485	insulin-like growt
27	248.5	64.5	214	2	B46244	insulin-like growt
28	245	63.6	193	2	A53697	insulin-like growt
29	223	57.9	128	2	I57671	insulin-like growt
30	223	57.9	180	1	IGHU2	insulin-like growt
31	222.5	57.8	187	2	T10897	insulin-like growt
32	222	57.7	155	1	IGBO2	insulin-like growt
33	222	57.7	179	2	S04858	insulin-like growt
34	220.5	57.3	180	2	A24913	insulin-like growt
35	220	57.1	93	2	I53642	insulin-like growt
36	220	57.1	181	2	B60738	insulin-like growt
37	218	56.6	180	1	IGRT2	insulin-like growt
38	217.5	56.5	183	2	S02423	insulin-like growt
39	211.5	54.9	183	2	I67610	insulin-like growt
40	206.5	53.6	139	2	A38612	insulin-like growt
41	200	51.9	66	2	A60740	insulin-like growt
42	199	51.7	210	2	S66484	insulin-like growt
43	159.5	41.4	50	1	INFIS	insulin - shorthor
44	158.5	41.2	51	1	INCD	insulin - cod (Gad
45	155.5	40.4	51	1	INTF1	insulin 1 - toadfi

ALIGNMENTS

RESULT 1
PN0622
insulin-like growth factor Ia precursor - dog (fragment)
C;Species: Canis lupus familiaris (dog)
C;Date: 10-Mar-1994 #sequence_revision 10-Mar-1994 #text_change 07-May-1999
C;Accession: PN0622
R;Delafontaine, P.; Lou, H.; Harrison, D.G.; Bernstein, K.E.
Gene 130, 305-306, 1993
A;Title: Sequence of a cDNA encoding dog insulin-like growth factor I.
A;Reference number: PN0622; MUID:93366192; PMID:8359700
A;Accession: PN0622
A;Molecule type: mRNA
A;Residues: 1-122 <DEL>
C;Comment: This protein is a potent inducer of DNA synthesis in multiple cell types, act
C;Genetics:
A;Gene: IGFIa
C;Superfamily: insulin
C;Keywords: growth factor
F;20-89/Product: insulin-like growth factor Ia (fragment) #status predicted <MAT>

Query Match 100.0%; Score 385; DB 2; Length 122;
Best Local Similarity 100.0%; Pred. No. 1.8e-37;
Matches 70; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         20 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 79

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         80 CAPLKPAKSA 89
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RESULT 2
IGGP1
insulin-like growth factor I precursor - guinea pig
C;Species: Cavia porcellus (guinea pig)
C;Date: 30-Sep-1991 #sequence_revision 30-Sep-1991 #text_change 07-Nov-1997
C;Accession: S12719
R;Bell, G.I.; Stempien, M.M.; Fong, N.M.; Seino, S.
Nucleic Acids Res. 18, 4275, 1990
A;Title: Sequence of a cDNA encoding guinea pig IGF-I.
A;Reference number: S12719; MUID:90332447; PMID:2377480
A;Accession: S12719
A;Molecule type: mRNA
A;Residues: 1-137 <BEL>
A;Cross-references: EMBL:X52951
A;Note: it is uncertain whether Met-1 or Met-8 is the initiator
C;Superfamily: insulin
C;Keywords: glycoprotein; growth factor; plasma
F;1-32/Domain: signal sequence #status predicted <SIG>
F;33-102/Product: insulin-like growth factor I #status predicted <MAT>

3-61/Domain: insulin chain B-like #status predicted <CHB>
2-73/Domain: insulin connecting C peptide-like #status predicted <CHC>
4-94/Domain: insulin chain A-like #status predicted <CHA>
5-102/Domain: D peptide #status predicted <CHD>
03-137/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CHE>
24/Binding site: carbohydrate (Asn) (covalent) #status predicted

)uery Match 100.0%; Score 385; DB 1; Length 137;
Best Local Similarity 100.0%; Pred. No. 2e-37;
Matches 70; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
            ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
         33 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 92

         61 CAPLKPAKSA 70
            ||||||||||
         93 CAPLKPAKSA 102
```

3ULT 3
6552
sulin-like growth factor 1a precursor - human
Species: Homo sapiens (man)
Date: 12-Apr-1991 #sequence_revision 12-Apr-1991 #text_change 16-Jul-1999
Accession: A36552
Tobin, G.; Yee, D.; Bruenner, N.; Rotwein, P.
1. Endocrinol. 4, 1914-1920, 1990
Title: A novel human insulin-like growth factor I messenger RNA is expressed in normal
Reference number: A36552; MUID:91187000; PMID:2082190
Accession: A36552
Status: preliminary
Molecule type: mRNA
Residues: 1-137 <TOB>
Cross-references: GB:M37484; NID:g184833; PIDN:AAA52789.1; PID:g184834
Superfamily: insulin

Query Match 100.0%; Score 385; DB 2; Length 137;
Best Local Similarity 100.0%; Pred. No. 2e-37;
Matches 70; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
            ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
         33 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 92

         61 CAPLKPAKSA 70
            ||||||||||
         93 CAPLKPAKSA 102
```

ESULT 4
GHU1
nsulin-like growth factor I precursor, splice form A [validated] - human
;Alternate names: IGF-I long splice form precursor; IGF-IA; somatomedin C
;Species: Homo sapiens (man)
;Date: 24-Apr-1984 #sequence_revision 30-Jun-1987 #text_change 31-Dec-2000
;Accession: A92581; A23614; A93321; JT0571; A23622; A92226; A60483; S30519; A48960; I57
.;Rotwein, P.; Pollock, K.M.; Didier, D.K.; Krivi, G.G.
. Biol. Chem. 261, 4828-4832, 1986
.;Title: Organization and sequence of the human insulin-like growth factor I gene. Alter
.;Reference number: A92581; MUID:86168194; PMID:2937782
.;Accession: A92581
.;Molecule type: DNA
.;Residues: 1-153 <ROT>
.;Cross-references: GB:M14156; NID:g183107; PIDN:AAA52538.1; PID:g183110
!;de Pagter-Holthuizen, P.; van Schaik, F.M.A.; Verduijn, G.M.; van Ommen, G.J.B.; Bouma
'EBS Lett. 195, 179-184, 1986
.;Title: Organization of the human genes for insulin-like growth factors I and II.
.;Reference number: A91356; MUID:86108862; PMID:3002851
.;Accession: A23614
.;Molecule type: DNA
.;Residues: 24-153 <DEP>
.;Cross-references: GB:X03420; GB:X00362; NID:g33020; PIDN:CAA27152.1; PID:g33021; GB:X0

R;Jansen, M.; van Schaik, F.M.A.; Ricker, A.T.; Bullock, B.; Woods, D.E.; Gabbay, K.H.;
Nature 306, 609-611, 1983
A;Title: Sequence of cDNA encoding human insulin-like growth factor I precursor.
A;Reference number: A93321; MUID:84068210; PMID:6358902
A;Accession: A93321
A;Molecule type: mRNA
A;Residues: 1-153 <JAN>
A;Cross-references: GB:X00173; NID:g33015; PIDN:CAA24998.1; PID:g33016
A;Note: Met-24 is proposed as a likely initiator
R;Steenbergh, P.H.; Koonen-Reemst, A.M.C.B.; Cleutjens, C.B.J.M.; Sussenbach, J.S.
Biochem. Biophys. Res. Commun. 175, 507-514, 1991
A;Title: Complete nucleotide sequence of the high molecular weight human IGF-I mRNA.
A;Reference number: JT0571; MUID:91207342; PMID:2018498
A;Accession: JT0571
A;Molecule type: mRNA
A;Residues: 1-153 <STE>
A;Cross-references: EMBL:X57025; NID:g33007; PIDN:CAA40342.1; PID:g33008
R;Le Bouc, Y.; Dreyer, D.; Jaeger, F.; Binoux, M.; Sondermeyer, P.
FEBS Lett. 196, 108-112, 1986
A;Title: Complete characterization of the human IGF-I nucleotide sequence isolated from
A;Reference number: A23622; MUID:86108910; PMID:2935423
A;Accession: A23622
A;Molecule type: mRNA
A;Residues: 1-153 <LEB>
A;Cross-references: GB:M27544; NID:g184829; PIDN:AAA52787.1; PID:g306927
R;Rinderknecht, E.; Humbel, R.E.
J. Biol. Chem. 253, 2769-2776, 1978
A;Title: The amino acid sequence of human insulin-like growth factor I and its structura
A;Reference number: A92226; MUID:78130171; PMID:632300
A;Accession: A92226
A;Molecule type: protein
A;Residues: 49-118 <RIN>
R;Karey, K.P.; Marquardt, H.; Sirbasku, D.A.
Blood 74, 1084-1092, 1989
A;Title: Human platelet-derived mitogens. Identification of insulinlike growth factors I
A;Reference number: A60483; MUID:89323462; PMID:2752153
A;Accession: A60483
A;Molecule type: protein
A;Residues: 49-53,'X',55-65,'X',67-75 <KAR>
A;Experimental source: platelet lysate
R;Nordqvist Sandberg, A.C.; Stahlbom, P.A.; Lake, M.; Sara, V.R.
submitted to the EMBL Data Library, November 1990
A;Description: Nucleotide sequence of the human fetal brain IGF-1a.
A;Reference number: S30519
A;Accession: S30519
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-153 <NOR>
A;Cross-references: EMBL:X56773; NID:g32989; PIDN:CAA40092.1; PID:g32990
R;Sandberg-Nordqvist, A.C.; Stahlbom, P.A.; Reinecke, M.; Collins, V.P.; von Holst, H.;
Cancer Res. 53, 2475-2478, 1993
A;Title: Characterization of insulin-like growth factor 1 in human primary brain tumors.
A;Reference number: A48960; MUID:93265440; PMID:8495408
A;Accession: A48960
A;Molecule type: mRNA
A;Residues: 1-123,'E',125-132,'E',134-153 <SAN>
A;Cross-references: GB:X56773; GB:S61841; NID:g32989
A;Experimental source: anaplastic oligodendroglioma
A;Note: sequence extracted from NCBI backbone (NCBIN:133056, NCBIP:133057)
A;Note: sequence inconsistent with the nucleotide translation
R;Rall, L.B.; Scott, J.; Bell, G.I.
Meth. Enzymol. 146, 239-248, 1987
A;Title: Human insulin-like growth factor I and II messenger RNA: isolation of complemen
A;Reference number: I57044; MUID:88065102; PMID:3683205
A;Accession: I57044
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 24-153 <RAL>
A;Cross-references: GB:M29644; NID:g183119; PIDN:AAA52543.1; PID:g183120
C;Comment: The insulin-like growth factors, isolated from plasma, are structurally and f
C;Comment: For an alternative splice form, see PIR:IGHU1B.
C;Genetics:
A;Gene: GDB:IGF1

```
A;Cross-references: GDB:120081; OMIM:147440
A;Map position: 12q22-12q24.1
A;Introns: 21/3; 74/1; 134/3
C;Superfamily: insulin
C;Keywords: alternative splicing; growth factor; plasma
F;1-21/Domain: signal sequence #status predicted <SIG>
F;22-48/Domain: propeptide #status predicted <PRO>
F;49-118/Product: insulin-like growth factor I #status experimental <MAT>
F;49-77/Domain: insulin chain B-like #status experimental <CHB>
F;78-89/Domain: insulin connecting C peptide-like #status experimental <CHC>
F;90-110/Domain: insulin chain A-like #status experimental <CHA>
F;111-118/Domain: D peptide #status experimental <CHD>
F;119-153/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CPRO>
F;54-96,66-109,95-100/Disulfide bonds: #status predicted

  Query Match             100.0%;  Score 385;  DB 1;  Length 153;
  Best Local Similarity   100.0%;  Pred. No. 2.2e-37;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db        109 CAPLKPAKSA 118


RESULT 5
IGBO1
insulin-like growth factor IA precursor - bovine (fragment)
N;Alternate names: IGF-I; somatomedin C
C;Species: Bos primigenius taurus (cattle)
C;Date: 31-Mar-1988 #sequence_revision 28-Apr-1995 #text_change 18-Jun-1999
C;Accession: S12672; A25623; S00465
R;Fotsis, T.; Murphy, C.; Gannon, F.
Nucleic Acids Res. 18, 676, 1990
A;Title: Nucleotide sequence of the bovine insulin-like growth factor 1 (IGF-1) and its
A;Reference number: S12672; MUID:90175014; PMID:2308858
A;Accession: S12672
A;Molecule type: mRNA
A;Residues: 1-153 <FOT>
A;Cross-references: EMBL:X15726; NID:g454; PIDN:CAA33746.1; PID:g455
A;Experimental source: liver
R;Honegger, A.; Humbel, R.E.
J. Biol. Chem. 261, 569-575, 1986
A;Title: Insulin-like growth factors I and II in fetal and adult bovine serum. Purificat
A;Reference number: A92585; MUID:86085881; PMID:3941093
A;Accession: A25623
A;Molecule type: protein
A;Residues: 49-118 <HON>
R;Francis, G.L.; Upton, F.M.; Ballard, F.J.; McNeil, K.A.; Wallace, J.C.
Biochem. J. 251, 95-103, 1988
A;Title: Insulin-like growth factors 1 and 2 in bovine colostrum. Sequences and biologic
A;Reference number: S00465; MUID:88268820; PMID:3390164
A;Accession: S00465
A;Molecule type: protein
A;Residues: 49-118 <FRA>
A;Experimental source: colostrum
A;Note: a form of IGF-I lacking the first three residues and possessing enhanced biologi
C;Superfamily: insulin
C;Keywords: alternative splicing; colostrum; growth factor; plasma
F;1-20/Domain: signal sequence (fragment) #status predicted <SIG>
F;22-48/Domain: propeptide #status predicted <PRO>
F;49-118/Product: insulin-like growth factor IA (active) #status experimental <MAT>
F;49-77/Domain: insulin B chain-like #status experimental <DOB>
F;78-89/Domain: insulin connecting C peptide-like #status experimental <CHC>
F;90-110/Domain: insulin A chain-like #status experimental <DOA>
F;111-118/Domain: D peptide #status experimental <CHD>
F;119-153/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CPR>
F;54-96,66-109,95-100/Disulfide bonds: #status predicted

  Query Match             100.0%;  Score 385;  DB 1;  Length 153;
  Best Local Similarity   100.0%;  Pred. No. 2.2e-37;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db        109 CAPLKPAKSA 118


RESULT 6
S12825
insulin-like growth factor I precursor - pig
N;Alternate names: somatomedin C
C;Species: Sus scrofa domestica (domestic pig)
C;Date: 13-Jan-1995 #sequence_revision 13-Jan-1995 #text_change 16-Jul-1999
C;Accession: S12825; S21488; A34938; A60738
R;Mueller, M.; Brem, G.
Nucleic Acids Res. 18, 364, 1990
A;Title: Nucleotide sequence of porcine insulin-like growth factor I: 5' untranslated r
A;Reference number: S12825; MUID:90221822; PMID:2326169
A;Accession: S12825
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-153 <MUE>
A;Cross-references: EMBL:X52388
R;Dickson, M.C.; Huskisson, N.S.; Gilmour, R.S.
submitted to the EMBL Data Library, November 1989
A;Description: Porcine Insulin-like growth factor gene: sequence of exon and 5' non-cod
A;Reference number: S21488
A;Accession: S21488
A;Molecule type: DNA
A;Residues: 1-21 <DIC>
A;Cross-references: EMBL:X17638; NID:g1995; PIDN:CAA35632.1; PID:g1996
R;Tavakkol, A.; Simmen, F.A.; Simmen, R.C.M.
Mol. Endocrinol. 2, 674-681, 1988
A;Title: Porcine insulin-like growth factor-I (pIGF-I): complementary deoxyribonucleic
es.
A;Reference number: A34938; MUID:89096956; PMID:3211153
A;Accession: A34938
A;Molecule type: mRNA
A;Residues: 'Y',21-153 <TAV>
A;Cross-references: GB:M31175
R;Francis, G.L.; Owens, P.C.; McNeil, K.A.; Wallace, J.C.; Ballard, F.J.
J. Endocrinol. 122, 681-687, 1989
A;Title: Purification, amino acid sequences and assay cross-reactivities of porcine ins
A;Reference number: A60738; MUID:90039035; PMID:2809477
A;Accession: A60738
A;Molecule type: protein
A;Residues: 49-117,'X' <FRA>
C;Genetics:
A;Introns: 21/3; 74/1
C;Superfamily: insulin
C;Keywords: growth factor
F;1-22/Domain: signal sequence #status predicted <SIG>
F;23-48/Domain: propeptide #status predicted <PRO>
F;49-153/Product: insulin-like growth factor IA #status experimental <MAT>

  Query Match             100.0%;  Score 385;  DB 2;  Length 153;
  Best Local Similarity   100.0%;  Pred. No. 2.2e-37;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db        109 CAPLKPAKSA 118
```

```
RESULT 7
IGHU1B
insulin-like growth factor I precursor, splice form B [validated] - human
N;Alternate names: IGF-IB; somatomedin C
N;Contains: insulin-like growth factor IB-E1 amide
C;Species: Homo sapiens (man)
C;Date: 30-Jun-1987 #sequence_revision 30-Jun-1987 #text_change 31-Dec-2000
C;Accession: A01611; A26181; S30540; B48960; A42664
R;Rotwein, P.; Pollock, K.M.; Didier, D.K.; Krivi, G.G.
J. Biol. Chem. 261, 4828-4832, 1986
A;Title: Organization and sequence of the human insulin-like growth factor I gene. Alter
A;Reference number: A92581; MUID:86168194; PMID:2937782
A;Accession: A01611
A;Molecule type: DNA
A;Residues: 1-195 <ROT1>
A;Cross-references: GB:M14155; NID:g183106; PIDN:AAA52537.1; PID:g183109
R;Rotwein, P.
Proc. Natl. Acad. Sci. U.S.A. 83, 77-81, 1986
A;Title: Two insulin-like growth factor I messenger RNAs are expressed in human liver.
A;Reference number: A26181; MUID:86094355; PMID:3455760
A;Accession: A26181
A;Molecule type: mRNA
A;Residues: 1-195 <ROT2>
A;Cross-references: GB:M11568; NID:g183111; PIDN:AAA52539.1; PID:g183112
R;Sandberg Nordqvist, A.C.; Stahlbom, P.A.; Lake, M.; Sara, V.R.
Submitted to the EMBL Data Library, November 1990
A;Description: Nucleotide sequence of the human fetal brain IGF-1b.
A;Reference number: S30540
A;Accession: S30540
A;Molecule type: mRNA
A;Residues: 1-195 <SAN>
A;Cross-references: EMBL:X56774; NID:g32991; PIDN:CAA40093.1; PID:g32992
R;Sandberg-Nordqvist, A.C.; Stahlbom, P.A.; Reinecke, M.; Collins, V.P.; von Holst, H.;
Cancer Res. 53, 2475-2478, 1993
A;Title: Characterization of insulin-like growth factor 1 in human primary brain tumors.
A;Reference number: A48960; MUID:93265440; PMID:8495408
A;Accession: B48960
A;Molecule type: mRNA
A;Residues: 1-195 <SA2>
A;Cross-references: GB:X56774; GB:S61860; NID:g32991; PIDN:CAA40093.1; PID:g32992
A;Experimental source: anaplastic oligodendroglioma
A;Note: sequence modified after extraction from NCBI backbone
A;Note: the authors translated the codon CAG for residues 124 and 133 as Glu
A;Note: sequence extracted from NCBI backbone (NCBIN:133058)
R;Siegfried, J.M.; Kasprzyk, P.G.; Treston, A.M.; Mulshine, J.L.; Quinn, K.A.; Cuttitta,
Proc. Natl. Acad. Sci. U.S.A. 89, 8107-8111, 1992
A;Title: A mitogenic peptide amide encoded within the E peptide domain of the insulin-li
A;Reference number: A42664; MUID:92390398; PMID:1325646
A;Contents: annotation; IBE-1; amidated carboxyl end
C;Comment: For an alternative splice form, see PIR:IGHU1.
C;Genetics:
A;Gene: GDB:IGF1
A;Cross-references: GDB:120081; OMIM:147440
A;Map position: 12q22-12q24.1
A;Introns: 21/3; 74/1; 134/3
C;Superfamily: insulin
C;Keywords: alternative splicing; amidated carboxyl end; growth factor; plasma
F;1-21/Domain: signal sequence #status predicted <SIG>
F;22-48/Domain: propeptide #status predicted <PRO>
F;49-118/Product: insulin-like growth factor I #status predicted <MAT>
F;49-77/Domain: insulin chain B-like #status predicted <CHB>
F;78-89/Domain: insulin connecting C peptide-like #status predicted <CHC>
F;90-110/Domain: insulin chain A-like #status predicted <CHA>
F;111-118/Domain: D peptide #status predicted <CHD>
F;119-195/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CHE>
F;151-172/Product: insulin-like growth factor IB-E1 amide #status predicted <MA2>
F;54-96,66-109,95-100/Disulfide bonds: #status predicted
F;172/Modified site: amidated carboxyl end (Arg) (amide in mature form from following gl

  Query Match             100.0%;  Score 385;  DB 1;  Length 195;
  Best Local Similarity   100.0%;  Pred. No. 2.8e-37;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db        109 CAPLKPAKSA 118


RESULT 8
JC2483
insulin-like growth factor-I precursor - goat
C;Species: Capra aegagrus hircus (domestic goat)
C;Date: 16-Mar-1995 #sequence_revision 26-May-1995 #text_change 17-Mar-1999
C;Accession: JC2483
R;Mikawa, S.; Yoshikawa, G.; Aoki, H.; Yamano, Y.; Sakai, H.; Komano, T.
Biosci. Biotechnol. Biochem. 59, 87-92, 1995
A;Title: Dynamic aspects in the expression of the goat insulin-like growth factor-I (IGF
A;Reference number: JC2483; MUID:95201385; PMID:7765981
A;Accession: JC2483
A;Molecule type: mRNA
A;Residues: 1-154 <MIK>
A;Cross-references: GB:S11378; DDBJ:D26116; DDBJ:D26117; DDBJ:D26118; DDBJ:D26119
C;Genetics:
A;Introns: 21/3; 75/1; 135/3
C;Superfamily: insulin
F;1-49/Domain: signal sequence #status predicted <SIG>
F;50-119/Product: insulin-like growth factor-I #status predicted <MAT>
F;120-154/Region: E domain

  Query Match             99.0%;  Score 381;  DB 2;  Length 154;
  Best Local Similarity   98.6%;  Pred. No. 6.6e-37;
  Matches   69;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         50 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 109

Qy         61 CAPLKPAKSA 70
              |||||| |||
Db        110 CAPLKPTKSA 119


RESULT 9
S22878
insulin-like growth factor I precursor, splice form 2 - sheep
C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C;Date: 23-Apr-1999 #sequence_revision 23-Apr-1999 #text_change 23-Jul-1999
C;Accession: S22878; S07198
R;Dickson, M.C.; Saunders, J.C.; Gilmour, R.S.
J. Mol. Endocrinol. 6, 17-31, 1991
A;Title: The ovine insulin-like growth factor-I gene: characterization, expression and i
A;Reference number: S22877; MUID:91197361; PMID:2015053
A;Accession: S22878
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-138 <DIC>
A;Cross-references: EMBL:X51358
R;Francis, G.L.; McNeil, K.A.; Wallace, J.C.; Ballard, F.J.; Owens, P.C.
Endocrinology 124, 1173-1183, 1989
A;Title: Sheep insulin-like growth factors I and II: sequences, activities and assays.
A;Reference number: S07198; MUID:89136887; PMID:2537174
A;Accession: S07198
A;Molecule type: protein
A;Residues: 34-103 <FRA>
A;Experimental source: fetal plasma
C;Genetics:
A;Introns: 5/3; 59/1; 119/3
C;Superfamily: insulin
C;Keywords: alternative splicing; growth factor; plasma
F;7-33/Domain: propeptide #status predicted <PRO>
F;34-103/Product: insulin-like growth factor I (active) #status experimental <MAT>
F;34-62/Domain: insulin chain B-like #status predicted <DOB>
```

F;63-74/Domain: insulin connecting peptide-like #status predicted <CHC>
F;75-95/Domain: insulin chain A-like #status predicted <DOA>
F;96-103/Domain: peptide D #status predicted <CHD>
F;104-138/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CTP>
F;39-81,51-94,80-85/Disulfide bonds: #status predicted

Query Match 97.9%; Score 377; DB 2; Length 138;
Best Local Similarity 98.6%; Pred. No. 1.7e-36;
Matches 69; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

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Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         34 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 93

Qy         61 CAPLKPAKSA 70
              ||||| ||||
Db         94 CAPLKAAKSA 103
```

RESULT 10
A33390
insulin-like growth factor I precursor, splice form 1 - sheep
N;Alternate names: somatomedin C
C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C;Date: 09-Mar-1990 #sequence_revision 27-Feb-1997 #text_change 23-Jul-1999
C;Accession: S22877; A33390; S07965; S07198
R;Dickson, M.C.; Saunders, J.C.; Gilmour, R.S.
J. Mol. Endocrinol. 6, 17-31, 1991
A;Title: The ovine insulin-like growth factor-I gene: characterization, expression and i
A;Reference number: S22877; MUID:91197361; PMID:2015053
A;Accession: S22877
A;Molecule type: DNA
A;Residues: 1-154 <DIC>
A;Cross-references: EMBL:X51358
R;Wong, E.A.; Ohlsen, S.M.; Godfredson, J.A.; Dean, D.M.; Wheaton, J.E.
DNA 8, 649-657, 1989
A;Title: Cloning of ovine insulin-like growth factor-I cDNAs: heterogeneity in the mRNA
A;Reference number: A33390; MUID:90126234; PMID:2575490
A;Accession: A33390
A;Molecule type: mRNA
A;Residues: 1-43,'SS',46-154 <WON>
A;Cross-references: GB:M30653; NID:g165929; PIDN:AAA80532.1; PID:g165930
R;Hey, A.W.; Browne, C.A.; Simpson, R.J.; Thorburn, G.D.
Biochim. Biophys. Acta 997, 27-35, 1989
A;Title: Simultaneous isolation of insulin-like growth factors I and II from adult sheep
A;Reference number: S04972; MUID:89323215; PMID:2752053
A;Accession: S07965
A;Molecule type: protein
A;Residues: 50-79 <HEY>
R;Francis, G.L.; McNeil, K.A.; Wallace, J.C.; Ballard, F.J.; Owens, P.C.
Endocrinology 124, 1173-1183, 1989
A;Title: Sheep insulin-like growth factors I and II: sequences, activities and assays.
A;Reference number: S07198; MUID:89136887; PMID:2537174
A;Accession: S07198
A;Molecule type: protein
A;Residues: 50-119 <FRA>
A;Experimental source: fetal plasma
C;Genetics:
A;Introns: 21/3; 75/1; 135/3
C;Superfamily: insulin
C;Keywords: alternative splicing; growth factor; plasma
F;1-21/Domain: signal sequence #status predicted <SIG>
F;22-49/Domain: propeptide #status predicted <PRO>
F;50-119/Product: insulin-like growth factor I (active) #status experimental <MAT>
F;50-78/Domain: insulin chain B-like #status predicted <DOB>
F;79-90/Domain: insulin connecting peptide-like #status predicted <CHC>
F;91-111/Domain: insulin chain A-like #status predicted <DOA>
F;112-119/Domain: peptide D #status predicted <CHD>
F;120-154/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CTP>
F;55-97,67-110,96-101/Disulfide bonds: #status predicted

Query Match 97.9%; Score 377; DB 2; Length 154;
Best Local Similarity 98.6%; Pred. No. 1.9e-36;
Matches 69; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

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Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         50 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 109

Qy         61 CAPLKPAKSA 70
              ||||| ||||
Db        110 CAPLKAAKSA 119
```

RESULT 11
B27804
insulin-like growth factor IA precursor - rat
N;Alternate names: IGF-IA; somatomedin C
C;Species: Rattus norvegicus (Norway rat)
C;Date: 16-Mar-1989 #sequence_revision 16-Mar-1989 #text_change 21-Jul-2000
C;Accession: B27804; A27849; JH0133; A28504; JN0088; A32857; A61096
R;Shimatsu, A.; Rotwein, P.
J. Biol. Chem. 262, 7894-7900, 1987
A;Title: Mosaic evolution of the insulin-like growth factors. Organization, sequence,
A;Reference number: A27804; MUID:87222423; PMID:3034909
A;Accession: B27804
A;Molecule type: DNA
A;Residues: 1-153 <SHI>
A;Cross-references: GB:M15651; GB:J02743; NID:g204297; PIDN:AAA41215.1; PID:g204300
R;Casella, S.J.; Smith, E.P.; Van Wyk, J.J.; Joseph, D.R.; Hynes, M.A.; Hoyt, E.C.; Lu
DNA 6, 325-330, 1987
A;Title: Isolation of rat testis cDNAs encoding an insulin-like growth factor I precur
A;Reference number: A27849; MUID:88003970; PMID:3652906
A;Accession: A27849
A;Molecule type: mRNA
A;Residues: 27-153 <CAS>
A;Cross-references: GB:M17335; NID:g204751; PIDN:AAA41386.1; PID:g204752
R;Kato, H.; Okoshi, A.; Miura, Y.; Noguchi, T.
Agric. Biol. Chem. 54, 1599-1601, 1990
A;Title: A new cDNA clone relating to larger molecular species of rat insulin-like gro
A;Reference number: JH0133; MUID:91103966; PMID:1368571
A;Accession: JH0133
A;Molecule type: mRNA
A;Residues: 27-153 <KAT>
A;Cross-references: GB:D00698; NID:g220780; PIDN:BAA00604.1; PID:g220781
A;Experimental source: liver
R;Murphy, L.J.; Bell, G.I.; Duckworth, M.L.; Friesen, H.G.
Endocrinology 121, 684-691, 1987
A;Title: Identification, characterization, and regulation of a rat complementary deoxy
A;Reference number: A28504; MUID:87246437; PMID:3595538
A;Accession: A28504
A;Molecule type: mRNA
A;Residues: 46-153 <MUR>
A;Cross-references: GB:M17714; NID:g204324; PIDN:AAA41227.1; PID:g204325
R;Kato, H.; Takenaka, A.; Miura, Y.; Nishiyama, M.; Noguchi, T.
Agric. Biol. Chem. 54, 2225-2230, 1990
A;Title: Evidence of introduction by molecular cloning of artificial inverted sequence
A;Reference number: JN0088; MUID:91136779; PMID:1368576
A;Accession: JN0088
A;Molecule type: mRNA
A;Residues: 'MSAPP',22-153 <KA2>
A;Experimental source: liver
A;Note: the authors present evidence that this mRNA may contain an artifactual inversi
R;Tamura, K.; Kobayashi, M.; Ishii, Y.; Tamura, T.; Hashimoto, K.; Nakamura, S.; Niwa,
J. Biol. Chem. 264, 5616-5621, 1989
A;Title: Primary structure of rat insulin-like growth factor-I and its biological acti
A;Reference number: A32857; MUID:89174609; PMID:2538424
A;Accession: A32857
A;Molecule type: protein
A;Residues: 49-118 <TAM>
R;Canalis, E.; McCarthy, T.; Centrella, M.
Endocrinology 122, 22-27, 1988
A;Title: Isolation and characterization of insulin-like growth factor I (somatomedin-C
A;Reference number: A61096; MUID:88082445; PMID:3335205
A;Accession: A61096
A;Molecule type: protein

```
A;Residues: 49-53,'X',55-65 <CAN>
C;Superfamily: insulin
C;Keywords: alternative splicing; growth factor
F;49-118/Product: insulin-like growth factor I #status experimental <ILG>

  Query Match             95.6%;  Score 368;  DB 2;  Length 153;
  Best Local Similarity   95.7%;  Pred. No. 2.1e-35;
  Matches   67;  Conservative    0;  Mismatches    3;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| ||||||||||||| |||||||||||||||||||||||||
Db         49 GPETLCGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy         61 CAPLKPAKSA 70
              |||||| |||
Db        109 CAPLKPTKSA 118


RESULT 12
A26859
insulin-like growth factor IB precursor - rat
C;Species: Rattus norvegicus (Norway rat)
C;Date: 19-Nov-1988 #sequence_revision 19-Nov-1988 #text_change 16-Jul-1999
C;Accession: A26859
R;Shimatsu, A.; Rotwein, P.
Nucleic Acids Res. 15, 7196, 1987
A;Title: Sequence of two rat insulin-like growth factor I mRNAs differing within the 5'
A;Reference number: A26859; MUID:88015572; PMID:3658684
A;Accession: A26859
A;Molecule type: mRNA
A;Residues: 1-159 <SHI>
A;Cross-references: GB:X06107; GB:M32260; GB:Y00429; NID:g56424; PIDN:CAA29480.1; PID:g5
C;Superfamily: insulin
C;Keywords: alternative splicing; growth factor

  Query Match             95.6%;  Score 368;  DB 2;  Length 159;
  Best Local Similarity   95.7%;  Pred. No. 2.2e-35;
  Matches   67;  Conservative    0;  Mismatches    3;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| ||||||||||||| |||||||||||||||||||||||||
Db         49 GPETLCGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy         61 CAPLKPAKSA 70
              |||||| |||
Db        109 CAPLKPTKSA 118


RESULT 13
A27804
insulin-like growth factor I precursor - rat
C;Species: Rattus norvegicus (Norway rat)
C;Date: 09-Jun-1988 #sequence_revision 09-Jun-1988 #text_change 16-Jul-1999
C;Accession: A27804; I65202
R;Shimatsu, A.; Rotwein, P.
J. Biol. Chem. 262, 7894-7900, 1987
A;Title: Mosaic evolution of the insulin-like growth factors. Organization, sequence, an
A;Reference number: A27804; MUID:87222423; PMID:3034909
A;Accession: A27804
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-181 <SHI>
A;Cross-references: GB:M15650; GB:J02743; NID:g204296; PIDN:AAA41214.1; PID:g204299
R;Roberts, C.T.
Biochem. Biophys. Res. Commun. 146, 1154-1159, 1987
A;Title: Rat IGF-I cDNA's contain multiple 5'-untranslated regions.
A;Reference number: I52218; MUID:87298553; PMID:3619921
A;Accession: I65202
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-27 <RES>
A;Cross-references: GB:M17594; NID:g204759; PIDN:AAA41390.1; PID:g204760
C;Superfamily: insulin
C;Keywords: alternative splicing

  Query Match             95.6%;  Score 368;  DB 2;  Length 181;
  Best Local Similarity   95.7%;  Pred. No. 2.5e-35;
  Matches   67;  Conservative    0;  Mismatches    3;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| ||||||||||||| |||||||||||||||||||||||||
Db         49 GPETLCGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy         61 CAPLKPAKSA 70
              |||||| |||
Db        109 CAPLKPTKSA 118


RESULT 14
A25540
insulin-like growth factor IA precursor - mouse
N;Alternate names: IGF-IA; somatomedin C
C;Species: Mus musculus (house mouse)
C;Date: 30-Jun-1988 #sequence_revision 30-Jun-1988 #text_change 16-Jul-1999
C;Accession: A25540; I55295; I59090; B25540
R;Bell, G.I.; Stempien, M.M.; Fong, N.M.; Rall, L.B.
Nucleic Acids Res. 14, 7873-7882, 1986
A;Title: Sequences of liver cDNAs encoding two different mouse insulin-like growth fact
A;Reference number: A93643; MUID:87040760; PMID:3774549
A;Accession: A25540
A;Molecule type: mRNA
A;Residues: 1-127 <BEL>
A;Cross-references: GB:X04480; NID:g51801; PIDN:CAA28168.1; PID:g51802
R;Tollefsen, S.E.; Lajara, R.; McCusker, R.H.; Clemmons, D.R.; Rotwein, P.
J. Biol. Chem. 264, 13810-13817, 1989
A;Title: Insulin-like growth factors (IGF) in muscle development. Expression of IGF-I,
A;Reference number: I55295; MUID:89340472; PMID:2474537
A;Accession: I55295
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 49-108 <RES>
A;Cross-references: GB:M28139; NID:g341835; PIDN:AAA74553.1; PID:g550489
R;Mathews, L.S.; Norstedt, G.; Palmiter, R.D.
Proc. Natl. Acad. Sci. U.S.A. 83, 9343-9347, 1986
A;Title: Regulation of insulin-like growth factor I gene expression by growth hormone.
A;Reference number: I59090; MUID:87092249; PMID:3467309
A;Accession: I59090
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 49-108 <RE2>
A;Cross-references: GB:M14983; NID:g194495; PIDN:AAA37925.1; PID:g194496
C;Genetics:
A;Gene: igf1
C;Superfamily: insulin
C;Keywords: alternative splicing; growth factor
F;1-22/Domain: signal sequence #status predicted <SIG>
F;23-127/Product: insulin-like growth factor IA (active) #status predicted <MAT>
F;23-51/Domain: insulin chain B-like #status predicted <DOB>
F;52-63/Domain: insulin connecting C peptide-like #status predicted <DOC>
F;64-84/Domain: insulin chain A-like #status predicted <DOA>
F;85-92/Domain: D peptide #status predicted <DOD>
F;93-127/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CTP>

  Query Match             94.8%;  Score 365;  DB 2;  Length 127;
  Best Local Similarity   94.3%;  Pred. No. 3.9e-35;
  Matches   66;  Conservative    1;  Mismatches    3;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| ||||||||||||| |||||||||||||||||||||||||
Db         23 GPETLCGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 82

Qy         61 CAPLKPAKSA 70
              |||||| |:|
Db         83 CAPLKPTKAA 92
```

```
RESULT 15
B40912
insulin-like growth factor I precursor form 2 - rat
C;Species: Rattus norvegicus (Norway rat)
C;Date: 28-Feb-1992 #sequence_revision 28-Feb-1992 #text_change 16-Jul-1999
C;Accession: B40912
R;Roberts Jr., C.T.; Lasky, S.R.; Lowe Jr., W.L.; Seaman, W.T.; LeRoith, D.
Mol. Endocrinol. 1, 243-248, 1987
A;Title: Molecular cloning of rat insulin-like growth factor I complementary deoxyribonu
c tissues.
A;Reference number: A40912; MUID:88288198; PMID:3453891
A;Accession: B40912
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-127 <ROB>
A;Cross-references: GB:M15481; NID:g204753; PIDN:AAA41387.1; PID:g204754
C;Superfamily: insulin

  Query Match             90.9%;  Score 350;  DB 2;  Length 127;
  Best Local Similarity   91.4%;  Pred. No. 2.1e-33;
  Matches   64;  Conservative    0;  Mismatches    6;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||||| |||||||||||||| ||||||||||||||||||||||||
Db         23 GPETLCGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 82

Qy         61 CAPLKPAKSA 70
              |   || |||
Db         83 CVRCKPTKSA 92


RESULT 16
A40912
insulin-like growth factor I precursor form 1 - rat
C;Species: Rattus norvegicus (Norway rat)
C;Date: 28-Feb-1992 #sequence_revision 28-Feb-1992 #text_change 16-Jul-1999
C;Accession: A40912
R;Roberts Jr., C.T.; Lasky, S.R.; Lowe Jr., W.L.; Seaman, W.T.; LeRoith, D.
Mol. Endocrinol. 1, 243-248, 1987
A;Title: Molecular cloning of rat insulin-like growth factor I complementary deoxyribonu
c tissues.
A;Reference number: A40912; MUID:88288198; PMID:3453891
A;Accession: A40912
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-133 <ROB>
A;Cross-references: GB:M15480; NID:g204749; PIDN:AAA41385.1; PID:g204750
C;Superfamily: insulin

  Query Match             90.9%;  Score 350;  DB 2;  Length 133;
  Best Local Similarity   91.4%;  Pred. No. 2.2e-33;
  Matches   64;  Conservative    0;  Mismatches    6;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||||| |||||||||||||| ||||||||||||||||||||||||
Db         23 GPETLCGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 82

Qy         61 CAPLKPAKSA 70
              |   || |||
Db         83 CVRCKPTKSA 92


RESULT 17
A41399
insulin-like growth factor IA precursor - chicken
C;Species: Gallus gallus (chicken)
C;Date: 03-Apr-1992 #sequence_revision 03-Apr-1992 #text_change 16-Jul-1999
C;Accession: A41399; A61092; A40012; B60853; A37415
R;Kajimoto, Y.; Rotwein, P.
Mol. Endocrinol. 3, 1907-1913, 1989
A;Title: Structure and expression of a chicken insulin-like growth factor I precursor.
A;Reference number: A41399; MUID:90190648; PMID:2628728
A;Accession: A41399
A;Molecule type: mRNA
A;Residues: 1-153 <KAJ>
A;Cross-references: GB:M32791; NID:g211950; PIDN:AAA48828.1; PID:g211951
R;Fawcett, D.H.; Bulfield, G.
J. Mol. Endocrinol. 4, 201-211, 1990
A;Title: Molecular cloning, sequence analysis and expression of putative chicken insuli
A;Reference number: A61092; MUID:90334699; PMID:2378674
A;Accession: A61092
A;Status: not compared with conceptual translation
A;Molecule type: mRNA
A;Residues: 1-153 <FAW>
R;Kajimoto, Y.; Rotwein, P.
J. Biol. Chem. 266, 9724-9731, 1991
A;Title: Structure of the chicken insulin-like growth factor I gene reveals conserved p
A;Reference number: A40012; MUID:91236750; PMID:2033062
A;Accession: A40012
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-21 <KA2>
A;Cross-references: GB:M74176; NID:g211952; PIDN:AAA48829.1; PID:g211953
R;Dawe, S.R.; Francis, G.L.; McNamara, P.J.; Wallace, J.C.; Ballard, F.J.
J. Endocrinol. 117, 173-181, 1988
A;Title: Purification, partial sequences and properties of chicken insulin-like growth
A;Reference number: A60853; MUID:88244560; PMID:3379351
A;Accession: B60853
A;Molecule type: protein
A;Residues: 49-79 <DAW>
R;Ballard, F.J.; Johnson, R.J.; Owens, P.C.; Francis, G.L.; Upton, F.M.; McMurtry, J.P.
Gen. Comp. Endocrinol. 79, 459-468, 1990
A;Title: Chicken insulin-like growth factor-I: amino acid sequence, radioimmunoassay, a
A;Reference number: A37415; MUID:91106695; PMID:2272467
A;Accession: A37415
A;Status: preliminary
A;Molecule type: protein
A;Residues: 49-118 <BAL>
C;Superfamily: insulin
C;Keywords: growth factor
F;49-77,90-110/Product: insulin-like growth factor IA #status experimental <MAT>
F;49-77/Domain: insulin-like growth factor IA B chain #status predicted <CHB>
F;78-89/Domain: insulin connecting C peptide-like #status experimental <CPE>
F;90-110/Domain: insulin-like growth factor IA A chain #status experimental <CHA>
F;111-118/Domain: D peptide #status experimental <MAA>
F;119-153/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CTP>

  Query Match             89.4%;  Score 344;  DB 2;  Length 153;
  Best Local Similarity   88.6%;  Pred. No. 1.3e-32;
  Matches   62;  Conservative    3;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||||| |||||||||||||| ||||||||||||||||||||||||
Db         49 GPETLCGAELVDALQFVCGDRGFYFSKPTGYGSSSRRLHHKGIVDECCFQSCDLRRLEMY 108

Qy         61 CAPLKPAKSA 70
              |||:|| |||
Db        109 CAPIKPPKSA 118


RESULT 18
A36079
insulin-like growth factor I'' precursor - African clawed frog
C;Species: Xenopus laevis (African clawed frog)
C;Date: 30-Nov-1990 #sequence_revision 30-Nov-1990 #text_change 16-Jul-1999
C;Accession: A36079; B34049
R;Kajimoto, Y.; Rotwein, P.
Mol. Endocrinol. 4, 217-226, 1990
A;Title: Evolution of insulin-like growth factor I (IGF-I): structure and expression of
A;Reference number: A36079; MUID:90231335; PMID:2330002
A;Accession: A36079
A;Molecule type: mRNA
A;Residues: 1-153 <KAJ>
A;Cross-references: GB:M29857; NID:g214287; PIDN:AAA70330.1; PID:g214288
R;Shuldiner, A.R.; Nirula, A.; Scott, L.A.; Roth, J.
Biochem. Biophys. Res. Commun. 166, 223-230, 1990
```

```
A;Title: Evidence that Xenopus laevis contains two different nonallelic insulin-like grc
A;Reference number: A90158; MUID:90147704; PMID:2302204
A;Accession: B34049
A;Molecule type: DNA
A;Residues: 82-85,'A',87-125 <SH2>
C;Genetics:
A;Gene: IGF-I''
C;Superfamily: insulin
C;Keywords: growth factor

  Query Match             86.8%;  Score 334;  DB 2;  Length 153;
  Best Local Similarity   84.3%;  Pred. No. 1.8e-31;
  Matches   59;  Conservative    5;  Mismatches    6;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||| |||||||||||||:||||||::||:   ||||||||:||| ||||||
Db         49 GPETLCGAELVDTLQFVCGDRGFYFSKPTGYGSNNRRSHHRGIVDECCFQSCDFRRLEMY 108

Qy         61 CAPLKPAKSA 70
              ||| ||||||
Db        109 CAPAKPAKSA 118


RESULT 19
D54270
insulin-like growth factor-I precursor (clone OtIGFI-0) - chinook salmon
C;Species: Oncorhynchus tschawytscha (chinook salmon)
C;Date: 13-Sep-1994 #sequence_revision 25-Apr-1997 #text_change 16-Jul-1999
C;Accession: D54270
R;Wallis, A.E.; Devlin, R.H.
Mol. Endocrinol. 7, 409-422, 1993
A;Title: Duplicate insulin-like growth factor-I genes in salmon display alternative spli
A;Reference number: A54270; MUID:93247592; PMID:7683374
A;Accession: D54270
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-149 <WAL>
A;Cross-references: GB:U15962; GB:S59515; NID:g559010; PIDN:AAA67268.1; PID:g559011
A;Note: sequence extracted from NCBI backbone (NCBIN:130890, NCBIP:130894)
C;Superfamily: insulin

  Query Match             82.6%;  Score 318;  DB 2;  Length 149;
  Best Local Similarity   80.0%;  Pred. No. 1.3e-29;
  Matches   56;  Conservative    7;  Mismatches    7;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||| |||||:|||||:|||||| ||||:   ||||||||:||:|||||||
Db         45 GPETLCGAELVDTLQFVCGERGFYFSKPTGYGPSSRRSHNRGIVDECCFQSCELRRLEMY 104

Qy         61 CAPLKPAKSA 70
              |||:|  |:|
Db        105 CAPVKSGKAA 114


RESULT 20
C44012
insulin-like growth factor I precursor, splice form 3 - coho salmon (fragment)
N;Contains: insulin-like growth factor I, splice form 1; insulin-like growth factor I, s
C;Species: Oncorhynchus kisutch (coho salmon)
C;Date: 27-Apr-1993 #sequence_revision 27-Apr-1993 #text_change 16-Jul-1999
C;Accession: C44012; A44012; B44012
R;Duguay, S.J.; Park, L.K.; Samadpour, M.; Dickhoff, W.W.
Mol. Endocrinol. 6, 1202-1210, 1992
A;Title: Nucleotide sequence and tissue distribution of three insulin-like growth factor
A;Reference number: A44012; MUID:93024477; PMID:1406698
A;Accession: C44012
A;Status: preliminary; not compared with conceptual translation
A;Molecule type: mRNA
A;Residues: 1-155 <DUG>
A;Cross-references: GB:M81913; NID:g213442; PIDN:AAA49413.1; PID:g213443
A;Note: sequence extracted from NCBI backbone (NCBIP:115177)
C;Genetics:
A;Gene: IGF-I
C;Superfamily: insulin
C;Keywords: growth factor

  Query Match             82.6%;  Score 318;  DB 2;  Length 155;
  Best Local Similarity   80.0%;  Pred. No. 1.3e-29;
  Matches   56;  Conservative    7;  Mismatches    7;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||| |||||:|||||:|||||| ||||:   ||||||||:||:|||||||
Db         19 GPETLCGAELVDTLQFVCGERGFYFSKPTGYGPSSRRSHNRGIVDECCFQSCELRRLEMY 78

Qy         61 CAPLKPAKSA 70
              |||:|  |:|
Db         79 CAPVKSGKAA 88


RESULT 21
C54270
insulin-like growth factor-I precursor (clone OtIGFI-36) - chinook salmon
C;Species: Oncorhynchus tschawytscha (chinook salmon)
C;Date: 13-Sep-1994 #sequence_revision 25-Apr-1997 #text_change 16-Jul-1999
C;Accession: C54270
R;Wallis, A.E.; Devlin, R.H.
Mol. Endocrinol. 7, 409-422, 1993
A;Title: Duplicate insulin-like growth factor-I genes in salmon display alternative spl
A;Reference number: A54270; MUID:93247592; PMID:7683374
A;Accession: C54270
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-161 <WAL>
A;Cross-references: GB:U15961; GB:S59514; NID:g559008; PIDN:AAA67267.1; PID:g559009
A;Note: sequence extracted from NCBI backbone (NCBIN:130889, NCBIP:130893)
C;Superfamily: insulin

  Query Match             82.6%;  Score 318;  DB 2;  Length 161;
  Best Local Similarity   80.0%;  Pred. No. 1.4e-29;
  Matches   56;  Conservative    7;  Mismatches    7;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||| |||||:|||||:|||||| ||||:   ||||||||:||:|||||||
Db         45 GPETLCGAELVDTLQFVCGERGFYFSKPTGYGPSSRRSHNRGIVDECCFQSCELRRLEMY 104

Qy         61 CAPLKPAKSA 70
              |||:|  |:|
Db        105 CAPVKSGKAA 114


RESULT 22
A41396
insulin-like growth factor I precursor, splice form 2 - coho salmon
N;Contains: insulin-like growth factor I, splice form 1
C;Species: Oncorhynchus kisutch (coho salmon)
C;Date: 03-Apr-1992 #sequence_revision 03-Apr-1992 #text_change 21-Jul-2000
C;Accession: A41396; I51255; A44012; B44012
R;Cao, Q.P.; Duguay, S.J.; Plisetskaya, E.; Steiner, D.F.; Chan, S.J.
Mol. Endocrinol. 3, 2005-2010, 1989
A;Title: Nucleotide sequence and growth hormone-regulated expression of salmon insulin-l
A;Reference number: A41396; MUID:90190659; PMID:2628735
A;Accession: A41396
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-176 <CAO>
A;Cross-references: GB:M32792; NID:g213431; PIDN:AAA49410.1; PID:g213432
R;Koval, A.; Kulik, V.; Duguay, S.; Plisetskaya, E.; Adamo, M.L.; Roberts, C.T.
DNA Cell Biol. 13, 1057-1062, 1994
A;Title: Characterization of a salmon insulin-like growth factor I promoter.
A;Reference number: I51255; MUID:95032736; PMID:7945938
A;Accession: I51255
A;Status: translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-5,'F',7-16 <KOV>
A;Cross-references: GB:S74130; NID:g707007; PIDN:AAD14148.1; PID:g4261848
R;Duguay, S.J.; Park, L.K.; Samadpour, M.; Dickhoff, W.W.
```

Mol. Endocrinol. 6, 1202-1210, 1992
A;Title: Nucleotide sequence and tissue distribution of three insulin-like growth factor
A;Reference number: A44012; MUID:93024477; PMID:1406698
A;Accession: A44012
A;Status: preliminary; not compared with conceptual translation
A;Molecule type: mRNA
A;Residues: 27-130,158-169 <DUG>
A;Cross-references: GB:M81911; NID:g213438; PIDN:AAB59947.1; PID:g213439
A;Note: sequence extracted from NCBI backbone (NCBIP:115183)
A;Accession: B44012
A;Status: preliminary; not compared with conceptual translation
A;Molecule type: mRNA
A;Residues: 27-169 <DU2>
A;Cross-references: GB:M81912; NID:g213440; PIDN:AAB59948.1; PID:g213441
A;Note: sequence extracted from NCBI backbone (NCBIP:115182)
C;Genetics:
A;Gene: IGF-I
C;Superfamily: insulin
C;Keywords: growth factor

Query Match 82.6%; Score 318; DB 2; Length 176;
Best Local Similarity 80.0%; Pred. No. 1.5e-29;
Matches 56; Conservative 7; Mismatches 7; Indels 0; Gaps 0;

```
Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||| |||||:|||||:|||||| ||||:   ||||||||:||:|||||||
Db         45 GPETLCGAELVDTLQFVCGERGFYFSKPTGYGPSSRRSHNRGIVDECCFQSCELRRLEMY 104

Qy         61 CAPLKPAKSA 70
              |||:|  |:|
Db        105 CAPVKSGKAA 114
```

RESULT 23
A46244
insulin-like growth factor I precursor - rainbow trout
C;Species: Oncorhynchus mykiss (rainbow trout)
C;Date: 21-Sep-1993 #sequence_revision 18-Nov-1994 #text_change 16-Jul-1999
C;Accession: A46244
R;Shamblott, M.J.; Chen, T.T.
Proc. Natl. Acad. Sci. U.S.A. 89, 8913-8917, 1992
A;Title: Identification of a second insulin-like growth factor in a fish species.
A;Reference number: A46244; MUID:93028377; PMID:1409585
A;Accession: A46244
A;Status: preliminary
A;Molecule type: nucleic acid
A;Residues: 1-176 <SHA>
A;Cross-references: GB:M95183; NID:g213435; PIDN:AAA49412.1; PID:g213436
A;Experimental source: liver
A;Note: sequence extracted from NCBI backbone (NCBIN:115350, NCBIP:115352)
C;Superfamily: insulin

Query Match 82.6%; Score 318; DB 2; Length 176;
Best Local Similarity 80.0%; Pred. No. 1.5e-29;
Matches 56; Conservative 7; Mismatches 7; Indels 0; Gaps 0;

```
Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||| |||||:|||||:|||||| ||||:   ||||||||:||:|||||||
Db         45 GPETLCGAELVDTLQFVCGERGFYFSKPTGYGPSSRRSHNRGIVDECCFQSCELRRLEMY 104

Qy         61 CAPLKPAKSA 70
              |||:|  |:|
Db        105 CAPVKSGKAA 114
```

RESULT 24
A54270
insulin-like growth factor-I precursor (clone OtIGFI-117A) - chinook salmon
C;Species: Oncorhynchus tschawytscha (chinook salmon)
C;Date: 13-Sep-1994 #sequence_revision 25-Apr-1997 #text_change 30-May-1997
C;Accession: A54270
R;Wallis, A.E.; Devlin, R.H.
Mol. Endocrinol. 7, 409-422, 1993
A;Title: Duplicate insulin-like growth factor-I genes in salmon display alternative spl
A;Reference number: A54270; MUID:93247592; PMID:7683374
A;Accession: A54270
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-188 <WAL>
A;Note: sequence extracted from NCBI backbone (NCBIN:130887, NCBIP:130891)
C;Superfamily: insulin

Query Match 82.6%; Score 318; DB 2; Length 188;
Best Local Similarity 80.0%; Pred. No. 1.6e-29;
Matches 56; Conservative 7; Mismatches 7; Indels 0; Gaps 0;

```
Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||| |||||:|||||:|||||| ||||:   ||||||||:||:|||||||
Db         45 GPETLCGAELVDTLQFVCGERGFYFSKPTGYGPSSRRSHNRGIVDECCFQSCELRRLEMY 104

Qy         61 CAPLKPAKSA 70
              |||:|  |:|
Db        105 CAPVKSGKAA 114
```

RESULT 25
B54270
insulin-like growth factor-I precursor (clone OtIGFI-117B) - chinook salmon
C;Species: Oncorhynchus tschawytscha (chinook salmon)
C;Date: 13-Sep-1994 #sequence_revision 25-Apr-1997 #text_change 30-May-1997
C;Accession: B54270
R;Wallis, A.E.; Devlin, R.H.
Mol. Endocrinol. 7, 409-422, 1993
A;Title: Duplicate insulin-like growth factor-I genes in salmon display alternative spl
A;Reference number: A54270; MUID:93247592; PMID:7683374
A;Accession: B54270
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-188 <WAL>
A;Note: sequence extracted from NCBI backbone (NCBIN:130888, NCBIP:130892)
C;Superfamily: insulin

Query Match 82.6%; Score 318; DB 2; Length 188;
Best Local Similarity 80.0%; Pred. No. 1.6e-29;
Matches 56; Conservative 7; Mismatches 7; Indels 0; Gaps 0;

```
Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||| |||||:|||||:|||||| ||||:   ||||||||:||:|||||||
Db         45 GPETLCGAELVDTLQFVCGERGFYFSKPTGYGPSSRRSHNRGIVDECCFQSCELRRLEMY 104

Qy         61 CAPLKPAKSA 70
              |||:|  |:|
Db        105 CAPVKSGKAA 114
```

RESULT 26
S66485
insulin-like growth factor I precursor - spiny dogfish
C;Species: Squalus acanthias (spiny dogfish)
C;Date: 28-Oct-1996 #sequence_revision 13-Mar-1997 #text_change 16-Jul-1999
C;Accession: S66485; S58036
R;Duguay, S.J.; Chan, S.J.; Mommsen, T.P.; Steiner, D.F.
FEBS Lett. 371, 69-72, 1995
A;Title: Divergence of insulin-like growth factors I and II in the elasmobranch, Squalu
A;Reference number: S66484; MUID:95394151; PMID:7545136
A;Accession: S66485
A;Molecule type: mRNA
A;Residues: 1-126 <DUG>
A;Cross-references: EMBL:Z50081; NID:g902730; PIDN:CAA90412.1; PID:g902731
A;Experimental source: liver
C;Superfamily: insulin
C;Keywords: glycoprotein; growth factor
F;1-24/Domain: signal sequence #status predicted <SIG>
F;25-126/Product: insulin-like growth factor I #status predicted <MAT>
F;25-53/Domain: insulin-like growth factor I chain B #status predicted <CHB>
F;54-64/Domain: insulin connecting peptide C-like #status predicted <CPE>

```
F;65-85/Domain: insulin-like growth factor I chain A #status predicted <CHA>
F;95-126/Region: domain E
F;30-71,42-84,70-75/Disulfide bonds: #status predicted
F;113/Binding site: carbohydrate (Asn) (covalent) #status predicted

  Query Match             72.3%;  Score 278.5;  DB 2;  Length 126;
  Best Local Similarity   77.9%;  Pred. No. 4.1e-25;
  Matches   53;  Conservative    5;  Mismatches    7;  Indels    3;  Gaps    2;

Qy          2 PETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMYC 61
              |||||||||||||||||||||||||| || || || |  |||:||||:||||: |||||
Db         26 PETLCGAELVDALQFVCGDRGFYFNKPAGYRSSVRR-PHRGIVNECCFQSCDLKLLEMYC 84

Qy         62 APLKPAKS 69
              |  || ::
Db         85 A--KPQRA 90


RESULT 27
B46244
insulin-like growth factor II precursor - rainbow trout
C;Species: Oncorhynchus mykiss (rainbow trout)
C;Date: 21-Sep-1993 #sequence_revision 18-Nov-1994 #text_change 16-Jul-1999
C;Accession: B46244
R;Shamblott, M.J.; Chen, T.T.
Proc. Natl. Acad. Sci. U.S.A. 89, 8913-8917, 1992
A;Title: Identification of a second insulin-like growth factor in a fish species.
A;Reference number: A46244; MUID:93028377; PMID:1409585
A;Accession: B46244
A;Status: preliminary
A;Molecule type: nucleic acid
A;Residues: 1-214 <SHA>
A;Cross-references: GB:M95184; NID:g213433; PIDN:AAA49411.1; PID:g213434
A;Experimental source: liver
A;Note: sequence extracted from NCBI backbone (NCBIN:115351, NCBIP:115353)
C;Superfamily: insulin

  Query Match             64.5%;  Score 248.5;  DB 2;  Length 214;
  Best Local Similarity   73.1%;  Pred. No. 2e-21;
  Matches   49;  Conservative    5;  Mismatches   10;  Indels    3;  Gaps    2;

Qy          3 ETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMYCA 62
              ||||| |||||||||| |||||::||   |:|||:   |||:|||||||||  || |||
Db         53 ETLCGGELVDALQFVCEDRGFYFSRPTS-RSNSRRSQNRGIVEECCFRSCDLNLLEQYCA 111

Qy         63 PLKPAKS 69
                |||||
Db        112 --KPAKS 116


RESULT 28
A53697
insulin-like growth factor I, brain-specific - Siamese catfish
C;Species: Clarias macrocephalus (Siamese catfish)
C;Date: 07-Jul-1995 #sequence_revision 07-Jul-1995 #text_change 19-May-2000
C;Accession: A53697
R;McRory, J.E.; Sherwood, N.M.
J. Biol. Chem. 269, 18588-18592, 1994
A;Title: Catfish express two forms of insulin-like growth factor-I (IGF-I) in the brain.
A;Reference number: A53697; MUID:94308098; PMID:7913463
A;Accession: A53697
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-193 <MCR>
A;Cross-references: GB:X79077
C;Superfamily: insulin

  Query Match             63.6%;  Score 245;  DB 2;  Length 193;
  Best Local Similarity   64.2%;  Pred. No. 4.7e-21;
  Matches   43;  Conservative   10;  Mismatches   14;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              || ||| |||||:|||||| |||||::| |||||:      ||:|:|||:|| || :|||

Db         44 GPYTLCRAELVDSLQFVCGQRGFYFSRPMGYGSSTCWTHNRGILDKCCFQSCQLRWIEMY 103

Qy         61 CAPLKPA 67
              ||  :|:
Db        104 CAAFEPS 110


RESULT 29
I57671
insulin-like growth factor II - guinea pig
C;Species: Cavia porcellus (guinea pig)
C;Date: 02-Aug-1996 #sequence_revision 02-Aug-1996 #text_change 16-Jul-1999
C;Accession: I57671
R;Levinovitz, A.; Norstedt, G.; van den Berg, S.; Robinson, I.C.; Ekstrom, T.J.
Mol. Cell. Endocrinol. 89, 105-110, 1992
A;Title: Isolation of an insulin-like growth factor II cDNA from guinea pig liver: expre
A;Reference number: I57671; MUID:93246007; PMID:1301379
A;Accession: I57671
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-128 <RES>
A;Cross-references: GB:S59899; NID:g300070; PIDN:AAB26479.1; PID:g300071
C;Superfamily: insulin

  Query Match             57.9%;  Score 223;  DB 2;  Length 128;
  Best Local Similarity   68.7%;  Pred. No. 1.1e-18;
  Matches   46;  Conservative    4;  Mismatches   11;  Indels    6;  Gaps    3;

Qy          3 ETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMYCA 62
              ||||| |||| ||||||||||||::|      |||:  |||:|||||||||  || |||
Db         30 ETLCGGELVDTLQFVCGDRGFYFSRPA--SRVSRRS--RGIVEECCFRSCDLALLETYCA 85

Qy         63 PLKPAKS 69
                ||||
Db         86 --TPAKS 90


RESULT 30
IGHU2
insulin-like growth factor II precursor [validated] - human
N;Alternate names: somatomedin A
C;Species: Homo sapiens (man)
C;Date: 24-Apr-1984 #sequence_revision 15-Nov-1984 #text_change 08-Dec-2000
C;Accession: B23614; A93339; A28300; A30155; I56957; A93338; A91448; B60483; A33845; A61
R;de Pagter-Holthuizen, P.; van Schaik, F.M.A.; Verduijn, G.M.; van Ommen, G.J.B.; Bouma
FEBS Lett. 195, 179-184, 1986
A;Title: Organization of the human genes for insulin-like growth factors I and II.
A;Reference number: A91356; MUID:86108862; PMID:3002851
A;Accession: B23614
A;Molecule type: DNA
A;Residues: 1-180 <DEP>
R;Dull, T.J.; Gray, A.; Hayflick, J.S.; Ullrich, A.
Nature 310, 777-781, 1984
A;Title: Insulin-like growth factor II pecursor gene organization in relation to insulin
A;Reference number: A93339; MUID:84295593; PMID:6382022
A;Accession: A93339
A;Molecule type: DNA
A;Residues: 1-180 <DUL>
A;Cross-references: GB:M14118; NID:g183094; PIDN:AAA52535.1; PID:g183096
R;Irminger, J.C.; Rosen, K.M.; Humbel, R.E.; Villa-Komaroff, L.
Proc. Natl. Acad. Sci. U.S.A. 84, 6330-6334, 1987
A;Title: Tissue-specific expression of insulin-like growth factor II mRNAs with distinct
A;Reference number: A28300; MUID:87317645; PMID:3476948
A;Accession: A28300
A;Molecule type: mRNA
A;Residues: 1-180 <IRM>
A;Cross-references: GB:M17426; NID:g189954; PIDN:AAA60088.1; PID:g189955
R;Shen, S.J.; Daimon, M.; Wang, C.Y.; Jansen, M.; Ilan, J.
Proc. Natl. Acad. Sci. U.S.A. 85, 1947-1951, 1988
A;Title: Isolation of an insulin-like growth factor II cDNA with a unique 5' untranslate
A;Reference number: A30155; MUID:88158110; PMID:2450353
A;Accession: A30155
A;Molecule type: mRNA
```

A;Residues: 1-180 <SHE>
A;Cross-references: GB:J03242; NID:g183123; PIDN:AAA52545.1; PID:g183124
R;Hagiwara, K.; Kobayashi, T.; Tobita, M.; Kikyo, N.; Yazaki, Y.; Okabe, T.
Jpn. J. Cancer Res. 86, 202-207, 1995
A;Title: Isolation of a cDNA for a growth factor of vascular endothelial cells from huma
A;Reference number: I56957; MUID:95247546; PMID:7730145
A;Accession: I56957
A;Status: translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-180 <HAG>
A;Cross-references: GB:S77035; NID:g914191; PIDN:AAB34155.1; PID:g914192
A;Experimental source: lung cancer cell line T3M-11
R;Bell, G.I.; Merryweather, J.P.; Sanchez-Pescador, R.; Stempien, M.M.; Priestley, L.; S
Nature 310, 775-777, 1984
A;Title: Sequence of a cDNA clone encoding human preproinsulin-like growth factor II.
A;Reference number: A93338; MUID:84295592; PMID:6382021
A;Accession: A93338
A;Molecule type: mRNA
A;Residues: 1-180 <BEL>
A;Cross-references: GB:X00910; GB:M17862; NID:g32995; PIDN:CAA25426.1; PID:g32996
R;Rinderknecht, E.; Humbel, R.E.
FEBS Lett. 89, 283-286, 1978
A;Title: Primary structure of human insulin-like growth factor II.
A;Reference number: A91448; MUID:78191259; PMID:658418
A;Accession: A91448
A;Molecule type: protein
A;Residues: 25-91 <RIN>
R;Karey, K.P.; Marquardt, H.; Sirbasku, D.A.
Blood 74, 1084-1092, 1989
A;Title: Human platelet-derived mitogens. Identification of insulinlike growth factors I
A;Reference number: A60483; MUID:89323462; PMID:2752153
A;Accession: B60483
A;Molecule type: protein
A;Residues: 25-32,'X',34-44 <KAR>
A;Experimental source: platelet lysate
R;Smith, M.C.; Cook, J.A.; Furman, T.C.; Occolowitz, J.L.
J. Biol. Chem. 264, 9314-9321, 1989
A;Title: Structure and activity dependence of recombinant human insulin-like growth fact
A;Reference number: A33845; MUID:89255428; PMID:2722836
A;Accession: A33845
A;Molecule type: protein
A;Residues: 25-91 <SMI>
R;Mohan, S.
Growth Factors 2, 267-271, 1990
A;Title: A simple and efficient scheme for the purification of insulin-like growth factc
A;Reference number: A61037; MUID:90248152; PMID:2337472
A;Accession: A61037
A;Molecule type: protein
A;Residues: 25-32 <MOH>
A;Note: this protein was purified from bone, where it comprises 0.1 % of total protein
R;Jansen, M.; van Schaik, F.M.; van Tol, H.; Van den Brande, J.L.; Sussenbach, J.S.
FEBS Lett. 179, 243-246, 1985
A;Title: Nucleotide sequences of cDNAs encoding precursors of human insulin-like growth
A;Reference number: I53458; MUID:85102019; PMID:3881277
A;Accession: I53458
A;Status: translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-180 <RES>
A;Cross-references: GB:M17862; NID:g32995; PIDN:CAA25426.1; PID:g32996
A;Note: an alternatively spliced form was also found, in which 53-Ser is replaced by Arg
R;Rall, L.B.; Scott, J.; Bell, G.I.
Meth. Enzymol. 146, 239-248, 1987
A;Title: Human insulin-like growth factor I and II messenger RNA: isolation of complemen
A;Reference number: I57044; MUID:88065102; PMID:3683205
A;Accession: I76705
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-2,'M',4-180 <RE3>
A;Cross-references: GB:M29645; NID:g183121; PIDN:AAA52544.1; PID:g183122
R;Gray, A.; Tam, A.W.; Dull, T.J.; Hayflick, J.; Pintar, J.; Cavenee, W.K.; Koufos, A.;
DNA 6, 283-295, 1987
A;Title: Tissue-specific and developmentally regulated transcription of the insulin-like
A;Reference number: I52978; MUID:88003966; PMID:3652904
A;Accession: I52978
A;Status: translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-52 <RE2>
A;Cross-references: GB:M22373; NID:g183100; PIDN:AAA52536.1; PID:g553303
C;Genetics:
A;Gene: GDB:IGF2
A;Cross-references: GDB:119331; OMIM:147470
A;Map position: 11p15.5-11p15.5
C;Superfamily: insulin
C;Keywords: alternative splicing; angiogenesis; growth factor; monomer
F;1-24/Domain: signal sequence #status predicted <SIG>
F;25-91/Product: insulin-like growth factor II #status experimental <MAT>
F;92-180/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CTP>
F;33-71,45-84,70-75/Disulfide bonds: #status experimental

Query Match 57.9%; Score 223; DB 1; Length 180;
Best Local Similarity 68.7%; Pred. No. 1.6e-18;
Matches 46; Conservative 4; Mismatches 11; Indels 6; Gaps 3;

Qy 3 ETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMYCA 62
Db 30 ETLCGGELVDTLQFVCGDRGFYFSRPA--SRVSRRS--RGIVEECCFRSCDLALLETYCA 85

Qy 63 PLKPAKS 69
Db 86 --TPAKS 90

RESULT 31
T10897
insulin-like growth factor II precursor - chicken
C;Species: Gallus gallus (chicken)
C;Date: 16-Jul-1999 #sequence_revision 16-Jul-1999 #text_change 21-Jul-2000
C;Accession: T10897
R;Darling, D.C.; Brickell, P.M.
Gen. Comp. Endocrinol. 102, 283-287, 1996
A;Title: Nucleotide sequence and genomic structure of the chicken insulin-like growth
A;Reference number: Z17205; MUID:96397665; PMID:8804558
A;Accession: T10897
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-187 <DAR>
A;Cross-references: EMBL:S82962; NID:g1836005; PIDN:AAB46818.1; PID:g1836006
C;Genetics:
A;Introns: 52/1; 107/3
C;Superfamily: insulin
C;Keywords: angiogenesis; growth factor

Query Match 57.8%; Score 222.5; DB 2; Length 187;
Best Local Similarity 65.7%; Pred. No. 1.9e-18;
Matches 44; Conservative 4; Mismatches 14; Indels 5; Gaps 2;

Qy 3 ETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMYCA 62
Db 29 ETLCGGELVDTLQFVCGDRGFYFSRPVG---RNNRRINRGIVEECCFRSCDLALLETYCA 85

Qy 63 PLKPAKS 69
Db 86 --KSVKS 90

RESULT 32
IGBO2
insulin-like growth factor II precursor - bovine
N;Alternate names: IGF-II
C;Species: Bos primigenius taurus (cattle)
C;Date: 31-Mar-1988 #sequence_revision 22-Apr-1995 #text_change 23-Mar-2001
C;Accession: S10983; S37617; B25623; A34645; S00466; A57470
R;Brown, W.M.; Dziegielewska, K.M.; Foreman, R.C.; Saunders, N.R.
Nucleic Acids Res. 18, 4614, 1990
A;Title: The nucleotide and deduced amino acid sequences of insulin-like growth factor
A;Reference number: S10983; MUID:90356421; PMID:2388846

A;Accession: S10983
A;Molecule type: mRNA
A;Residues: 6-155 <BR2>
A;Cross-references: EMBL:X53553; NID:g459; PIDN:CAA37620.1; PID:g1364191
A;Experimental source: liver
R;Congote, L.F.; Mazza, L.; Palfree, R.G.E.
Comp. Biochem. Physiol. B 103, 127-131, 1992
A;Title: Nucleotide sequence of the central coding region of bovine erythrotropin/insuli
time of hepatic erythropoiesis.
A;Reference number: S37617; MUID:93083057; PMID:1280544
A;Accession: S37617
A;Molecule type: mRNA
A;Residues: 6-62 <CON>
A;Cross-references: EMBL:X53867; NID:g461; PIDN:CAA37861.1; PID:g930004
A;Experimental source: fetal intestine
R;Honegger, A.; Humbel, R.E.
J. Biol. Chem. 261, 569-575, 1986
A;Title: Insulin-like growth factors I and II in fetal and adult bovine serum. Purificat
A;Reference number: A92585; MUID:86085881; PMID:3941093
A;Accession: B25623
A;Molecule type: protein
A;Residues: 1-34,'S',36-67 <HON>
R;Li, Q.; Blacher, R.; Esch, F.; Congote, L.F.
Biochem. Biophys. Res. Commun. 166, 557-561, 1990
A;Title: A heparin-binding erythroid cell stimulating factor from fetal bovine serum has
A;Reference number: A34645; MUID:90147754; PMID:2302223
A;Accession: A34645
A;Molecule type: protein
A;Residues: 1-8,'X',10-20,'X',22-31 <LIQ>
R;Francis, G.L.; Upton, F.M.; Ballard, F.J.; McNeil, K.A.; Wallace, J.C.
Biochem. J. 251, 95-103, 1988
A;Title: Insulin-like growth factors 1 and 2 in bovine colostrum. Sequences and biologic
A;Reference number: S00465; MUID:88268820; PMID:3390164
A;Accession: S00466
A;Molecule type: protein
A;Residues: 1-67 <FRA>
R;Valenzano, K.J.; Remmler, J.; Lobel, P.
J. Biol. Chem. 270, 16441-16448, 1995
A;Title: Soluble insulin-like growth factor II/mannose 6-phosphate receptor carries mult
A;Reference number: A57470; MUID:95332360; PMID:7608216
A;Accession: A57470
A;Status: preliminary
A;Molecule type: protein
A;Residues: 1-5 <VAL>
C;Superfamily: insulin
C;Keywords: colostrum; growth factor; heparin binding; mitogen; plasma
F;1-67/Product: insulin-like growth factor II #status experimental <MAT>
F;1-27/Domain: insulin B chain-like #status experimental <DOB>
F;28-40/Domain: insulin connecting C peptide-like #status experimental <CPE>
F;41-61/Domain: insulin A chain-like #status experimental <DOA>
F;62-67/Domain: D peptide #status experimental <CHD>
F;68-155/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CHE>
F;9-47,21-60,46-51/Disulfide bonds: #status predicted

Query Match 57.7%; Score 222; DB 1; Length 155;
Best Local Similarity 67.2%; Pred. No. 1.8e-18;
Matches 45; Conservative 3; Mismatches 13; Indels 6; Gaps 2;

```
Qy          3 ETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMYCA 62
              ||||| |||| ||||||||||||::|    ||       |||:|||||||||  || |||
Db          6 ETLCGGELVDTLQFVCGDRGFYFSRP----SSRINRRSRGIVEECCFRSCDLALLETYCA 61

Qy         63 PLKPAKS 69
                |||| .
Db         62 --TPAKS 66
```

RESULT 33
S04858
insulin-like growth factor II precursor - sheep
C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C;Date: 07-Jun-1990 #sequence_revision 07-Jun-1990 #text_change 16-Jul-1999
C;Accession: S04858; S10984; S20731; S04972; S32557; S32558; A61008; S08567
R;O'Mahoney, J.V.; Adams, T.E.
Nucleic Acids Res. 17, 5392, 1989
A;Title: Nucleotide sequence of an ovine insulin-like growth factor-II cDNA.
A;Reference number: S04858; MUID:89345107; PMID:2762134
A;Accession: S04858
A;Molecule type: mRNA
A;Residues: 1-179 <OMA>
A;Cross-references: EMBL:X15248; NID:g1802; PIDN:CAA33324.1; PID:g1803
R;Brown, W.M.; Dziegielewska, K.M.; Foreman, R.C.; Saunders, N.R.
Nucleic Acids Res. 18, 4614, 1990
A;Title: The nucleotide and deduced amino acid sequences of insulin-like growth factor
A;Reference number: S10983; MUID:90356421; PMID:2388846
A;Accession: S10984
A;Molecule type: mRNA
A;Residues: 1-179 <BRO>
A;Cross-references: EMBL:X53554; NID:g1262; PIDN:CAA37621.1; PID:g1263
R;Ohlsen, S.M.; Wong, E.A.
submitted to the EMBL Data Library, September 1990
A;Reference number: S20731
A;Accession: S20731
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-179 <OHL>
A;Cross-references: EMBL:X55638; NID:g1266; PIDN:CAA39163.1; PID:g1267
R;Hey, A.W.; Browne, C.A.; Simpson, R.J.; Thorburn, G.D.
Biochim. Biophys. Acta 997, 27-35, 1989
A;Title: Simultaneous isolation of insulin-like growth factors I and II from adult shee
A;Reference number: S04972; MUID:89323215; PMID:2752053
A;Accession: S04972
A;Molecule type: protein
A;Residues: 25-58 <HEY>
R;Demmer, J.; Hill, D.F.; Petersen, G.B.
Biochim. Biophys. Acta 1173, 79-80, 1993
A;Title: Characterization of two sheep insulin-like growth factor II cDNAs with differe
A;Reference number: S32557; MUID:93250051; PMID:8485157
A;Accession: S32557
A;Status: nucleic acid sequence not shown; translation not shown
A;Molecule type: mRNA
A;Residues: 1-179 <DEM>
A;Cross-references: EMBL:M89788; NID:g165940; PIDN:AAA31548.1; PID:g165941
A;Note: the nucleotide sequence was submitted to the EMBL Data Library, March 1992
A;Accession: S32558
A;Status: preliminary; nucleic acid sequence not shown; translation not shown
A;Molecule type: mRNA
A;Residues: 1-120 <DE2>
A;Cross-references: EMBL:M89789; NID:g165942; PIDN:AAA31549.1; PID:g552424
A;Note: the nucleotide sequence was submitted to the EMBL Data Library, March 1992
R;Straczek, J.; Heulin, M.H.; Chenut, A.M.; Belleville, F.; Nabet, P.; Denoroy, L.; Bar
J. Chromatogr. 533, 35-46, 1990
A;Title: Application of preparative high-performance liquid chromatography to the purif
arriers.
A;Reference number: A61008; MUID:91185520; PMID:2081780
A;Accession: A61008
A;Molecule type: protein
A;Residues: 25-32,'X',34-44,'X',46-55,'X',57,'X',59-60 <STR>
A;Experimental source: fetal serum
R;Francis, G.L.; McNeil, K.A.; Wallace, J.C.; Ballard, F.J.; Owens, P.C.
Endocrinology 124, 1173-1183, 1989
A;Title: Sheep insulin-like growth factors I and II: sequences, activities and assays.
A;Reference number: S07198; MUID:89136887; PMID:2537174
A;Accession: S08567
A;Molecule type: protein
A;Residues: 25-45,'DG',48-91 <FRA>
A;Experimental source: fetal serum
C;Superfamily: insulin
C;Keywords: growth factor; plasma
F;1-24/Domain: signal sequence #status predicted <SIG>
F;25-91/Product: insulin-like growth factor II #status experimental <MAT>
F;25-52/Domain: insulin chain B-like #status predicted <DOB>
F;53-64/Domain: insulin connecting peptide-like #status predicted <CHC>
F;65-85/Domain: insulin chain A-like #status predicted <DOA>
F;86-91/Domain: D peptide #status predicted <CHD>
F;92-179/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CPR>

```
F;33-71,45-84,70-75/Disulfide bonds: #status predicted

  Query Match             57.7%;  Score 222;  DB 2;  Length 179;
  Best Local Similarity   67.2%;  Pred. No. 2e-18;
  Matches   45;  Conservative    3;  Mismatches   13;  Indels    6;  Gaps    2;

Qy          3 ETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMYCA 62
              ||||| |||| ||||||||||||::|    ||       |||:|||||||||  || |||
Db         30 ETLCGGELVDTLQFVCGDRGFYFSRP----SSRINRRSRGIVEECCFRSCDLALLETYCA 85

Qy         63 PLKPAKS 69
                ||||
Db         86 --APAKS 90


RESULT 34
A24913
insulin-like growth factor II precursor - mouse
C;Species: Mus musculus (house mouse)
C;Date: 07-Mar-1988 #sequence_revision 07-Mar-1988 #text_change 16-Jul-1999
C;Accession: A24913; S35874; I48463; I48464; I59137; S35875
R;Stempien, M.M.; Fong, N.M.; Rall, L.B.; Bell, G.I.
DNA 5, 357-361, 1986
A;Title: Sequence of a placental cDNA encoding the mouse insulin-like growth factor II p
A;Reference number: A24913; MUID:87053171; PMID:3780370
A;Accession: A24913
A;Molecule type: mRNA
A;Residues: 1-180 <STE>
A;Cross-references: GB:M14951; GB:J04069; GB:M20682; NID:g193484; PIDN:AAA37683.1; PID:g
A;Accession: S35874
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-52 <HO2>
A;Cross-references: EMBL:X71921; NID:g393422; PIDN:CAA50737.1; PID:g393423
R;Holthuizen, P.E.; Cleutjens, C.B.; Veenstra, G.J.; van der Lee, F.M.; Koonen-Reemst, A
Regul. Pept. 48, 77-89, 1993
A;Title: Differential expression of the human, mouse and rat IGF-II genes.
A;Reference number: I48463; MUID:94089965; PMID:8265819
A;Accession: I48463
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-52 <RES>
A;Cross-references: EMBL:X71921; NID:g393422; PIDN:CAA50737.1; PID:g393423
A;Accession: I48464
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 103-180 <RE3>
A;Cross-references: EMBL:X71922; NID:g393424; PIDN:CAA50738.1; PID:g393425
R;Tollefsen, S.E.; Sadow, J.L.; Rotwein, P.
Proc. Natl. Acad. Sci. U.S.A. 86, 1543-1547, 1989
A;Title: Coordinate expression of insulin-like growth factor II and its receptor during
A;Reference number: I59137; MUID:89160812; PMID:2537977
A;Accession: I59137
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-52 <RE2>
A;Cross-references: GB:M24633; NID:g341211; PIDN:AAA37923.1; PID:g553943
C;Genetics:
A;Gene: IGF-2
C;Superfamily: insulin
C;Keywords: growth factor

  Query Match             57.3%;  Score 220.5;  DB 2;  Length 180;
  Best Local Similarity   65.7%;  Pred. No. 3.1e-18;
  Matches   46;  Conservative    3;  Mismatches   14;  Indels    7;  Gaps    3;

Qy          1 GP-ETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEM 59
              || ||||| |||| ||||| ||||||::|    ||       |||:|||||||||  ||
Db         27 GPGETLCGGELVDTLQFVCSDRGFYFSRP----SSRANRRSRGIVEECCFRSCDLALLET 82

Qy         60 YCAPLKPAKS 69
              |||   ||||
Db         83 YCA--TPAKS 90


RESULT 35
I53642
insulin-like growth factor II precursor - horse (fragment)
C;Species: Equus caballus (domestic horse)
C;Date: 15-Oct-1996 #sequence_revision 15-Oct-1996 #text_change 16-Jul-1999
C;Accession: I53642
R;Otte, K.; Engstrom, W.
Gen. Comp. Endocrinol. 96, 270-275, 1994
A;Title: Insulin-like growth factor II in the horse: determination of a cDNA nucleotid
A;Reference number: I53642; MUID:95154655; PMID:7851727
A;Accession: I53642
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-93 <OTT>
A;Cross-references: EMBL:U11241; NID:g508703; PIDN:AAA73915.1; PID:g508704
C;Genetics:
A;Gene: IGF-II
C;Superfamily: insulin

  Query Match             57.1%;  Score 220;  DB 2;  Length 93;
  Best Local Similarity   67.2%;  Pred. No. 1.9e-18;
  Matches   45;  Conservative    5;  Mismatches   11;  Indels    6;  Gaps    3;

Qy          3 ETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMYCA 62
              ||||| |||| ||||||||||||::|      :||:   |||:|||||||||  || |||
Db          6 ETLCGGELVDTLQFVCGDRGFYFSRPA--SRINRRS--RGIVEECCFRSCDLALLETYCA 61

Qy         63 PLKPAKS 69
                ||||
Db         62 --TPAKS 66


RESULT 36
B60738
insulin-like growth factor II precursor - pig
C;Species: Sus scrofa domestica (domestic pig)
C;Date: 28-Apr-1993 #sequence_revision 30-Sep-1993 #text_change 13-Nov-1998
C;Accession: S12614; B60738
R;Catchpole, I.R.; Engstroem, W.
Nucleic Acids Res. 18, 6430, 1990
A;Title: Nucleotide sequence of a porcine insulin-like growth factor II cDNA.
A;Reference number: S12614; MUID:91057136; PMID:2243790
A;Accession: S12614
A;Molecule type: mRNA
A;Residues: 1-181 <CAT>
R;Francis, G.L.; Owens, P.C.; McNeil, K.A.; Wallace, J.C.; Ballard, F.J.
J. Endocrinol. 122, 681-687, 1989
A;Title: Purification, amino acid sequences and assay cross-reactivities of porcine in
A;Reference number: A60738; MUID:90039035; PMID:2809477
A;Accession: B60738
A;Molecule type: protein
A;Residues: 25-79,'X',81-91 <FRA>
C;Superfamily: insulin
F;1-24/Domain: signal sequence #status predicted <SIG>
F;25-91/Product: insulin-like growth factor II #status experimental <MAT>
F;92-181/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CTP>
F;33-71,45-84,70-75/Disulfide bonds: #status predicted

  Query Match             57.1%;  Score 220;  DB 2;  Length 181;
  Best Local Similarity   67.2%;  Pred. No. 3.5e-18;
  Matches   45;  Conservative    5;  Mismatches   11;  Indels    6;  Gaps    3;

Qy          3 ETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMYCA 62
              ||||| |||| ||||||||||||::|      :||:   |||:|||||||||  || |||
Db         30 ETLCGGELVDTLQFVCGDRGFYFSRPA--SRVNRRS--RGIVEECCFRSCDLALLETYCA 85

Qy         63 PLKPAKS 69
                ||||
Db         86 --TPAKS 90
```

RESULT 37
IGRT2
insulin-like growth factor II precursor - rat
N;Alternate names: IGF-II; multiplication stimulating polypeptide
C;Species: Rattus norvegicus (Norway rat)
C;Date: 18-Dec-1981 #sequence_revision 04-Dec-1986 #text_change 18-Jun-1999
C;Accession: A25350; A25598; A93554; A92329; A92505; I60178; I58058; I52428; I57695; I52
R;Frunzio, R.; Chiariotti, L.; Brown, A.L.; Graham, D.E.; Rechler, M.M.; Bruni, C.B.
J. Biol. Chem. 261, 17138-17149, 1986
A;Title: Structure and expression of the rat insulin-like growth factor II (rIGF-II) gen
A;Reference number: A25350; MUID:87057436; PMID:3023383
A;Accession: A25350
A;Molecule type: DNA
A;Residues: 1-180 <FRU>
A;Cross-references: GB:M13871; GB:J02637; NID:g204765; PIDN:AAB95624.1; PID:g2769668
R;Soares, M.B.; Turken, A.; Ishii, D.; Mills, L.; Episkopou, V.; Cotter, S.; Zeitlin, S.
J. Mol. Biol. 192, 737-752, 1986
A;Title: Rat insulin-like growth factor II gene. A single gene with two promoters expres
A;Reference number: A25598; MUID:87226166; PMID:2438416
A;Accession: A25598
A;Molecule type: DNA
A;Residues: 1-180 <SOA>
A;Cross-references: GB:X02213; NID:g56428; PIDN:CAA26136.1; PID:g56429
R;Bento Soares, M.; Ishii, D.N.; Efstratiadis, A.
Nucleic Acids Res. 13, 1119-1134, 1985
A;Title: Developmental and tissue-specific expression of a family of transcripts related
A;Reference number: A93554; MUID:85215534; PMID:3889836
A;Accession: A93554
A;Molecule type: mRNA
A;Residues: 1-180 <BEN>
A;Cross-references: GB:X02213; NID:g56428; PIDN:CAA26136.1; PID:g56429
R;Marquardt, H.; Todaro, G.J.; Henderson, L.E.; Oroszlan, S.
J. Biol. Chem. 256, 6859-6865, 1981
A;Title: Purification and primary structure of a polypeptide with multiplication-stimula
A;Reference number: A92329; MUID:81215670; PMID:7016879
A;Accession: A92329
A;Molecule type: protein
A;Residues: 25-56,'G',58-91 <MAR>
R;Hylka, V.W.; Teplow, D.B.; Kent, S.B.H.; Straus, D.S.
J. Biol. Chem. 260, 14417-14420, 1985
A;Title: Identification of a peptide fragment from the carboxyl-terminal extension regio
A;Reference number: A92505; MUID:86033940; PMID:4055782
A;Accession: A92505
A;Molecule type: protein
A;Residues: 92-180 <HYL>
R;Ueno, T.; Takahashi, K.; Matsuguchi, T.; Endo, H.; Yamamoto, M.
Biochim. Biophys. Acta 950, 411-419, 1988
A;Title: Transcriptional deviation of the rat insulin-like growth factor II gene initiat
A;Reference number: I60178; MUID:89000793; PMID:3167060
A;Accession: I60178
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-180 <RES>
A;Cross-references: EMBL:X13101; NID:g56412; PIDN:CAA31493.1; PID:g56413; EMBL:X14833; N
R;Whitfield, H.J.; Bruni, C.B.; Frunzio, R.; Terrell, J.E.; Nissley, S.P.; Rechler, M.M.
Nature 312, 277-280, 1984
A;Title: Isolation of a cDNA clone encoding rat insulin-like growth factor- II precursor
A;Reference number: I58058; MUID:85061532; PMID:6390212
A;Accession: I58058
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 62-180 <RE2>
A;Cross-references: GB:M30273; NID:g204923; PIDN:AAA41432.1; PID:g204924
R;Ueno, T.; Takahashi, K.; Matsuguchi, T.; Ikejiri, K.; Endo, H.; Yamamoto, M.
Biochim. Biophys. Acta 1009, 27-34, 1989
A;Title: Multiple polyadenylation sites in a large 3'-most exon of the rat insulin-like
A;Reference number: I52428; MUID:90001243; PMID:2477062
A;Accession: I52428
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 103-180 <RE3>
A;Cross-references: EMBL:X16703; NID:g288512; PIDN:CAA34674.1; PID:g288513
R;Chiariotti, L.; Brown, A.L.P.; Frunzio, R.; Clemmons, D.R.; Rechler, M.M.; Bruni, C.B.
Mol. Endocrinol. 2, 1115-1126, 1988
A;Title: Structure of the rat insulin-like growth factor II transcriptional unit: Heter
ribonucleic acid splicing.
A;Reference number: I57695; MUID:89127259; PMID:3221878
A;Accession: I57695
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 103-180 <RE4>
A;Cross-references: GB:M31221; NID:g206667; PIDN:AAA42046.1; PID:g206668
R;Rechler, M.M.; Bruni, C.B.; Whitfield, H.J.; Yang, Y.W.
Cancer Cells 3, 131-138, 1985
A;Title: Characterization of the biosynthetic precursor for rat insulin- like growth fa
A;Reference number: I52680
A;Accession: I52680
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 27-56,'G',58-180 <RE5>
A;Cross-references: GB:M38688; NID:g204925; PIDN:AAA41433.1; PID:g204926
C;Comment: Although structurally and functionally related to insulin, the insulin-like
ls; in vivo, their functions appear to differ. IGF-II is influenced by placental lactog
C;Genetics:
A;Gene: IGFII
A;Introns: 53/1; 102/3
C;Superfamily: insulin
C;Keywords: growth factor; mitogen; plasma
F;1-24/Domain: signal sequence #status predicted <SIG>
F;25-91/Product: insulin-like growth factor II (active) #status experimental <MAT>
F;25-56/Domain: insulin B chain-like #status experimental <DOB>
F;57-64/Domain: insulin connecting C peptide-like #status experimental <CPE>
F;65-85/Domain: insulin A chain-like #status experimental <DOA>
F;86-91/Domain: D peptide #status experimental <DOD>
F;92-180/Domain: carboxyl-terminal propeptide (E peptide) #status experimental <CHE>
F;33-71,45-84,70-75/Disulfide bonds: #status predicted

Query Match 56.6%; Score 218; DB 1; Length 180;
Best Local Similarity 65.7%; Pred. No. 5.9e-18;
Matches 44; Conservative 3; Mismatches 14; Indels 6; Gaps 2;

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Qy          3 ETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMYCA 62
              ||||| |||| ||||| |||||||::|    ||       |||:|||||||||  || |||
Db         30 ETLCGGELVDTLQFVCSDRGFYFSRP----SSRANRRSRGIVEECCFRSCDLALLETYCA 85

Qy         63 PLKPAKS 69
                ||||
Db         86 --TPAKS 90
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RESULT 38
S02423
insulin-like growth factor II precursor, splice form II - human
N;Alternate names: somatomedin A
C;Species: Homo sapiens (man)
C;Date: 28-Feb-1990 #sequence_revision 28-Feb-1990 #text_change 20-Jun-2000
C;Accession: S02423; S03383; A34439
R;le Bouc, Y.; Noguiez, P.; Sondermeijer, P.; Dreyer, D.; Girard, F.; Binoux, M.
FEBS Lett. 222, 181-185, 1987
A;Title: A new 5'-non-coding region for human placental insulin-like growth factor II m
A;Reference number: S02423; MUID:88005137; PMID:3653397
A;Accession: S02423
A;Status: not compared with conceptual translation
A;Molecule type: mRNA
A;Residues: 1-183 <LE1>
A;Cross-references: EMBL:Y00693
A;Note: 53-Ser was also found instead of residues 53-56 (Arg-Leu-Pro-Gly)
R;de Pagter-Holthuizen, P.; Jansen, M.; van der Kammen, R.A.; van Schaik, F.M.A.; Susse
Biochim. Biophys. Acta 950, 282-295, 1988
A;Title: Differential expression of the human insulin-like growth factor II gene. Chara
A;Reference number: S03383; MUID:89000779; PMID:3167054
A;Accession: S03383
A;Status: translation not shown
A;Molecule type: DNA
A;Residues: 106-183 <DEP>
A;Cross-references: EMBL:X07868; NID:g32998; PIDN:CAA30717.1; PID:g1335138

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R;Hampton, B.; Burgess, W.H.; Marshak, D.R.; Cullen, K.J.; Perdue, J.F.
J. Biol. Chem. 264, 19155-19160, 1989
A;Title: Purification and characterization of an insulin-like growth factor II variant f
A;Reference number: A34439; MUID:90037048; PMID:2553732
A;Accession: A34439
A;Molecule type: protein
A;Residues: 25-32,'X',34-44,'X',46-59 <HAM>
C;Genetics:
A;Gene: GDB:IGF2
A;Cross-references: GDB:119331; OMIM:147470
A;Map position: 11p15.5-11p15.5
C;Superfamily: insulin
C;Keywords: growth factor
F;1-24/Domain: signal sequence #status predicted <SIG>
F;25-94/Product: insulin-like growth factor II #status predicted <MAT>
F;25-59/Domain: insulin chain B-like #status experimental <DOB>
F;60-67/Domain: insulin connecting C peptide-like #status predicted <CPEP>
F;68-88/Domain: insulin chain A-like #status predicted <DOA>
F;89-94/Domain: D peptide #status predicted <DOD>
F;95-183/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CTP>
F;33-74,45-87,73-78/Disulfide bonds: #status predicted

  Query Match             56.5%;  Score 217.5;  DB 2;  Length 183;
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              ||||| |||| ||||||||||| |    | |||:   |||:|||||||| || ||
Db         30 ETLCGGELVDTLQFVCGDRGFYFRLPGRPASRVSRRS--RGIVEECCFRSCDLALLETYC 87

Qy         62 APLKPAKS 69
              |  ||||
Db         88 A--TPAKS 93


RESULT 39
I67610
insulin-like growth factor II, domains A-E - human
C;Species: Homo sapiens (man)
C;Date: 04-Oct-1996 #sequence_revision 04-Oct-1996 #text_change 16-Jul-1999
C;Accession: I67610
R;Jansen, M.; van Schaik, F.M.; van Tol, H.; Van den Brande, J.L.; Sussenbach, J.S.
FEBS Lett. 179, 243-246, 1985
A;Title: Nucleotide sequences of cDNAs encoding precursors of human insulin-like growth
A;Reference number: I53458; MUID:85102019; PMID:3881277
A;Accession: I67610
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-183 <RES>
A;Cross-references: GB:M17863; NID:g182527; PIDN:AAA52443.1; PID:g182528
C;Genetics:
A;Gene: GDB:IGF2
A;Cross-references: GDB:119331; OMIM:147470
A;Map position: 11p15.5-11p15.5
C;Superfamily: insulin

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  Best Local Similarity   65.7%;  Pred. No. 3.4e-17;
  Matches   46;  Conservative    4;  Mismatches   11;  Indels    9;  Gaps    4;

Qy          3 ETLCGAELVDALQFVCGDRGFYFN---KPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEM 59
              ||||| |||| ||||||||||||:   :|      |||:   |||:|||||||| ||
Db         30 ETLCGGELVDTLQFVCGDRGFYFSDFQRPA--SRVSRRS--RGIVEECCFRSCDLALLET 85

Qy         60 YCAPLKPAKS 69
              |||  ||||
Db         86 YCA--TPAKS 93


RESULT 40
A38612
insulin-like growth factor precursor - Atlantic hagfish (fragment)
C;Species: Myxine glutinosa (Atlantic hagfish)
C;Date: 23-Aug-1991 #sequence_revision 20-Sep-1991 #text_change 18-Jun-1993
C;Accession: A38612
R;Nagamatsu, S.; Chan, S.J.; Falkmer, S.; Steiner, D.F.
J. Biol. Chem. 266, 2397-2402, 1991
A;Title: Evolution of the insulin gene superfamily. Sequence of a preproinsulin-like g
A;Reference number: A38612; MUID:91115860; PMID:1989990
A;Accession: A38612
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-139 <NAG>
A;Cross-references: GB:N57735
A;Note: the authors translated the codon TGC for residue 21 as Ser
C;Superfamily: insulin

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  Best Local Similarity   57.1%;  Pred. No. 1e-16;
  Matches   40;  Conservative   10;  Mismatches   15;  Indels    5;  Gaps    2;

Qy          3 ETLCGAELVDALQFVCGDRGFYF---NKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEM 59
              |||||:|||| ||||| ||||:|   : |   |:  |   : |||:||||: | || |||
Db         41 ETLCGSELVDTLQFVCDDRGFFFVPQHVPPRRGAHRRSRARKGIVEECCFKGCSLRLLEM 100

Qy         60 YCAPLKPAKS 69
              |||  :|:|:
Db        101 YCA--RPSKA 108


Search completed: February 25, 2004, 06:25:08
Job time : 13.7956 secs
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GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: February 25, 2004, 06:24:38 ; Search time 29.1241 Seconds
(without alignments)
507.509 Million cell updates/sec

Title: US-10-066-009A-1
Perfect score: 385
Sequence: 1 GPETLCGAELVDALQFVCGD.....SCDLRRLEMYCAPLKPAKSA 70

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 809742 seqs, 211153259 residues

Total number of hits satisfying chosen parameters: 809742

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Published_Applications_AA:*
1: /cgn2_6/ptodata/1/pubpaa/US07_PUBCOMB.pep:*
2: /cgn2_6/ptodata/1/pubpaa/PCT_NEW_PUB.pep:*
3: /cgn2_6/ptodata/1/pubpaa/US06_NEW_PUB.pep:*
4: /cgn2_6/ptodata/1/pubpaa/US06_PUBCOMB.pep:*
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14: /cgn2_6/ptodata/1/pubpaa/US10B_PUBCOMB.pep:*
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	385	100.0	70	9	US-09-848-664-29	Sequence 29, Appl
2	385	100.0	70	9	US-09-848-664-30	Sequence 30, Appl
3	385	100.0	70	9	US-09-903-327A-8	Sequence 8, Appli
4	385	100.0	70	10	US-09-858-935B-3	Sequence 3, Appli
5	385	100.0	70	13	US-10-028-410-1	Sequence 1, Appli
6	385	100.0	70	13	US-10-066-009A-1	Sequence 1, Appli
7	385	100.0	70	14	US-10-136-639-1	Sequence 1, Appli
8	385	100.0	70	14	US-10-136-841-7	Sequence 7, Appli
9	385	100.0	70	14	US-10-444-326-1	Sequence 1, Appli
10	385	100.0	70	15	US-10-272-531A-7	Sequence 7, Appli
11	385	100.0	70	15	US-10-272-483A-7	Sequence 7, Appli
12	385	100.0	70	16	US-10-444-262-1	Sequence 1, Appli
13	385	100.0	105	9	US-09-852-261-10	Sequence 10, Appl
14	385	100.0	105	14	US-10-238-114-3	Sequence 3, Appli
15	385	100.0	110	9	US-09-852-261-2	Sequence 2, Appli
16	385	100.0	118	14	US-10-179-046-14	Sequence 14, Appl
17	385	100.0	137	14	US-10-251-661-8	Sequence 8, Appli
18	385	100.0	153	9	US-09-919-497-74	Sequence 74, Appl
19	385	100.0	153	14	US-10-136-639-3	Sequence 3, Appli
20	385	100.0	153	14	US-10-238-114-2	Sequence 2, Appli
21	385	100.0	153	14	US-10-207-655-55	Sequence 55, Appl
22	385	100.0	155	9	US-09-921-398-39	Sequence 39, Appl
23	385	100.0	155	14	US-10-280-826-39	Sequence 39, Appl
24	385	100.0	191	9	US-09-921-398-41	Sequence 41, Appl
25	385	100.0	191	14	US-10-280-826-41	Sequence 41, Appl
26	385	100.0	195	15	US-10-443-466A-20	Sequence 20, Appl
27	385	100.0	510	9	US-09-903-327A-12	Sequence 12, Appl
28	385	100.0	953	14	US-10-241-596-14	Sequence 14, Appl
29	382	99.2	105	9	US-09-852-261-14	Sequence 14, Appl
30	382	99.2	111	9	US-09-852-261-6	Sequence 6, Appli
31	378	98.2	91	14	US-10-323-046-42	Sequence 42, Appl
32	365	94.8	133	14	US-10-161-088-2	Sequence 2, Appli
33	341	88.6	105	9	US-09-852-261-12	Sequence 12, Appl
34	341	88.6	111	9	US-09-852-261-4	Sequence 4, Appli
35	317	82.3	68	14	US-10-339-740-218	Sequence 218, App
36	300	77.9	56	13	US-10-066-009A-5	Sequence 5, Appli
37	223.5	58.1	46	9	US-09-205-658-138	Sequence 138, App
38	223.5	58.1	46	9	US-09-205-658-139	Sequence 139, App
39	223.5	58.1	46	10	US-09-963-693-138	Sequence 138, App
40	223.5	58.1	46	10	US-09-963-693-139	Sequence 139, App
41	223	57.9	67	13	US-10-066-009A-2	Sequence 2, Appli
42	223	57.9	67	14	US-10-136-639-2	Sequence 2, Appli
43	223	57.9	67	14	US-10-136-841-8	Sequence 8, Appli
44	223	57.9	67	15	US-10-272-531A-8	Sequence 8, Appli
45	223	57.9	67	15	US-10-272-483A-8	Sequence 8, Appli

ALIGNMENTS

RESULT 1
US-09-848-664-29
; Sequence 29, Application US/09848664
; Patent No. US20020146414A1
; GENERAL INFORMATION:
; APPLICANT: Sakiyama-Elbert, Shelly E.
; APPLICANT: Hubbell, Jeffrey A.
; TITLE OF INVENTION: Controlled Release of No. US20020146414A1-Heparin Binding Growt
; TITLE OF INVENTION: Factors from Heparin Containing Matrices
; FILE REFERENCE: ETH 108
; CURRENT APPLICATION NUMBER: US/09/848,664
; CURRENT FILING DATE: 2001-05-03
; PRIOR APPLICATION NUMBER: 09/298,084
; PRIOR FILING DATE: 1999-04-22
; NUMBER OF SEQ ID NOS: 31
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 29
; LENGTH: 70
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-848-664-29

Query Match 100.0%; Score 385; DB 9; Length 70;
Best Local Similarity 100.0%; Pred. No. 2.2e-40;
Matches 70; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
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Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         61 CAPLKPAKSA 70
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RESULT 2
US-09-848-664-30
; Sequence 30, Application US/09848664

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; Patent No. US20020146414A1
; GENERAL INFORMATION:
;  APPLICANT: Sakiyama-Elbert, Shelly E.
;  APPLICANT:  Hubbell, Jeffrey A.
;  TITLE OF INVENTION: Controlled Release of No. US20020146414A1-Heparin Binding Growth
;  TITLE OF INVENTION:  Factors from Heparin Containing Matrices
;  FILE REFERENCE: ETH 108
;  CURRENT APPLICATION NUMBER: US/09/848,664
;  CURRENT FILING DATE:  2001-05-03
;  PRIOR APPLICATION NUMBER: 09/298,084
;  PRIOR FILING DATE: 1999-04-22
;  NUMBER OF SEQ ID NOS: 31
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 30
;   LENGTH: 70
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-848-664-30

  Query Match           100.0%;  Score 385;  DB 9;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 2.2e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
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Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         61 CAPLKPAKSA 70


RESULT 3
US-09-903-327A-8
; Sequence 8, Application US/09903327A
; Patent No. US20020164333A1
; GENERAL INFORMATION:
;  APPLICANT: Nemerow, Glen R.
;  APPLICANT:  Li, Erguang
;  TITLE OF INVENTION: BIFUNCTIONAL MOLECULES AND VECTORS COMPLEXED THEREWITH FOR TARGET
;  TITLE OF INVENTION:  GENE
;  TITLE OF INVENTION:  DELIVERY
;  FILE REFERENCE: 22908-1228
;  CURRENT APPLICATION NUMBER: US/09/903,327A
;  CURRENT FILING DATE:  2001-07-10
;  PRIOR APPLICATION NUMBER: 09/613,017
;  PRIOR FILING DATE: 2000-07-10
;  NUMBER OF SEQ ID NOS: 33
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 8
;   LENGTH: 70
;   TYPE: PRT
;   ORGANISM: Human
;   FEATURE:
;   NAME/KEY: PEPTIDE
;   LOCATION: (0)...(0)
;   OTHER INFORMATION: Human Insulin-like Growth Factor 1 sequence
;   OTHER INFORMATION: (IGF-1, mature peptide)
US-09-903-327A-8

  Query Match           100.0%;  Score 385;  DB 9;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 2.2e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         61 CAPLKPAKSA 70


RESULT 4
US-09-858-935B-3
; Sequence 3, Application US/09858935B
; Publication No. US20030069177A1
; GENERAL INFORMATION:
;  APPLICANT: Dubaquie, Yves
;  APPLICANT:  Filvaroff, Ellen
;  APPLICANT:  Lowman, Henry B.
;  TITLE OF INVENTION: METHOD FOR TREATING CARTILAGE DISORDERS
;  FILE REFERENCE: P1794R1
;  CURRENT APPLICATION NUMBER: US/09/858,935B
;  CURRENT FILING DATE:  2002-07-02
;  PRIOR APPLICATION NUMBER: US 60/248,985
;  PRIOR FILING DATE: 2000-11-15
;  PRIOR APPLICATION NUMBER: US 60/204,490
;  PRIOR FILING DATE: 2000-05-16
;  NUMBER OF SEQ ID NOS: 153
; SEQ ID NO 3
;   LENGTH: 70
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-858-935B-3

  Query Match           100.0%;  Score 385;  DB 10;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 2.2e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
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Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         61 CAPLKPAKSA 70


RESULT 5
US-10-028-410-1
; Sequence 1, Application US/10028410
; Publication No. US20020160955A1
; GENERAL INFORMATION:
;  APPLICANT: Dubaquie, Yves
;  APPLICANT:  Lowman, Henry
;  TITLE OF INVENTION: PROTEIN VARIANTS
;  FILE REFERENCE: P1712R1-1
;  CURRENT APPLICATION NUMBER: US/10/028,410
;  CURRENT FILING DATE:  2001-12-19
;  PRIOR APPLICATION NUMBER: US/09/477,924
;  PRIOR FILING DATE: 2000-01-05
;  NUMBER OF SEQ ID NOS: 6
; SEQ ID NO 1
;   LENGTH: 70
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-028-410-1

  Query Match           100.0%;  Score 385;  DB 13;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 2.2e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         61 CAPLKPAKSA 70


RESULT 6
US-10-066-009A-1
; Sequence 1, Application US/10066009A
; Publication No. US20020165155A1
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; GENERAL INFORMATION:
;  APPLICANT: Schaffer, Michelle
;  APPLICANT:  Ultsch, Mark
;  APPLICANT:  Vajdos, Felix
;  TITLE OF INVENTION: CRYSTALLIZATION OF IGF-1
;  FILE REFERENCE: P1869R1
;  CURRENT APPLICATION NUMBER: US/10/066,009A
;  CURRENT FILING DATE:  2002-06-24
;  PRIOR APPLICATION NUMBER: US 60/287,072
;  PRIOR FILING DATE: 2001-04-27
;  PRIOR APPLICATION NUMBER: US 60/267,977
;  PRIOR FILING DATE: 2001-02-09
;  NUMBER OF SEQ ID NOS: 5
; SEQ ID NO 1
;   LENGTH: 70
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-066-009A-1

  Query Match           100.0%;  Score 385;  DB 13;  Length 70;
  Best Local Similarity  100.0%;  Pred. No. 2.2e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         61 CAPLKPAKSA 70


RESULT 7
US-10-136-639-1
; Sequence 1, Application US/10136639
; Publication No. US20030072761A1
; GENERAL INFORMATION:
;  APPLICANT: LeBowitz, Jonathan
;  TITLE OF INVENTION: METHODS AND COMPOSITIONS FOR TARGETING PROTEINS ACROSS THE BLOOD
;  TITLE OF INVENTION:  BARRIER
;  FILE REFERENCE: SYM-008
;  CURRENT APPLICATION NUMBER: US/10/136,639
;  CURRENT FILING DATE:  2002-09-06
;  PRIOR APPLICATION NUMBER: US 60/329,650
;  PRIOR FILING DATE: 2001-10-16
;  NUMBER OF SEQ ID NOS: 4
;  SOFTWARE: PatentIn version 3.0
; SEQ ID NO 1
;   LENGTH: 70
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-136-639-1

  Query Match           100.0%;  Score 385;  DB 14;  Length 70;
  Best Local Similarity  100.0%;  Pred. No. 2.2e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         61 CAPLKPAKSA 70


RESULT 8
US-10-136-841-7
; Sequence 7, Application US/10136841
; Publication No. US20030082176A1
; GENERAL INFORMATION:
;  APPLICANT: LeBowitz, Jonathan
;  APPLICANT:  Beverley, Stephen
;  TITLE OF INVENTION: SUBCELLULAR TARGETING OF THERAPEUTIC PROTEINS
;  FILE REFERENCE: SYM-007
;  CURRENT APPLICATION NUMBER: US/10/136,841
;  CURRENT FILING DATE:  2002-08-22
;  PRIOR APPLICATION NUMBER: US 60/287,531
;  PRIOR FILING DATE: 2001-04-30
;  PRIOR APPLICATION NUMBER: US 60/304,609
;  PRIOR FILING DATE: 2001-07-10
;  PRIOR APPLICATION NUMBER: US 60/329,461
;  PRIOR FILING DATE: 2001-10-15
;  PRIOR APPLICATION NUMBER: US 60/351,276
;  PRIOR FILING DATE: 2002-01-23
;  NUMBER OF SEQ ID NOS: 22
;  SOFTWARE: PatentIn version 3.0
; SEQ ID NO 7
;   LENGTH: 70
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-136-841-7

  Query Match           100.0%;  Score 385;  DB 14;  Length 70;
  Best Local Similarity  100.0%;  Pred. No. 2.2e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
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Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         61 CAPLKPAKSA 70


RESULT 9
US-10-444-326-1
; Sequence 1, Application US/10444326
; Publication No. US20030191065A1
; GENERAL INFORMATION:
;  APPLICANT: Dubaquie, Yves
;  APPLICANT:  Lowman, Henry
;  TITLE OF INVENTION: PROTEIN VARIANTS
;  FILE REFERENCE: P1712R1
;  CURRENT APPLICATION NUMBER: US/10/444,326
;  CURRENT FILING DATE:  2003-05-22
;  PRIOR APPLICATION NUMBER: US/09/723,866
;  PRIOR FILING DATE: 2000-11-28
;  PRIOR APPLICATION NUMBER: US/09/477,923
;  PRIOR FILING DATE: 2000-01-05
;  NUMBER OF SEQ ID NOS: 6
; SEQ ID NO 1
;   LENGTH: 70
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-444-326-1

  Query Match           100.0%;  Score 385;  DB 14;  Length 70;
  Best Local Similarity  100.0%;  Pred. No. 2.2e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         61 CAPLKPAKSA 70


RESULT 10
US-10-272-531A-7
; Sequence 7, Application US/10272531A
; Publication No. US20040005309A1
; GENERAL INFORMATION:
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;  APPLICANT: LeBowitz, Jonathan H
;  APPLICANT:  Beverley, Stephen
;  APPLICANT:  Sly, William S.
;  TITLE OF INVENTION: TARGETED THERAPEUTIC PROTEINS
;  FILE REFERENCE: SYM-009
;  CURRENT APPLICATION NUMBER: US/10/272,531A
;  CURRENT FILING DATE:  2002-10-16
;  PRIOR APPLICATION NUMBER: US 60/384,452
;  PRIOR FILING DATE: 2002-05-29
;  PRIOR APPLICATION NUMBER: US 60/386,019
;  PRIOR FILING DATE: 2002-06-05
;  PRIOR APPLICATION NUMBER: US 60/408,816
;  PRIOR FILING DATE: 2002-09-06
;  NUMBER OF SEQ ID NOS: 22
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 7
;   LENGTH: 70
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-272-531A-7

  Query Match           100.0%;  Score 385;  DB 15;  Length 70;
  Best Local Similarity  100.0%;  Pred. No. 2.2e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
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Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         61 CAPLKPAKSA 70


RESULT 11
US-10-272-483A-7
; Sequence 7, Application US/10272483A
; Publication No. US20040006008A1
; GENERAL INFORMATION:
;  APPLICANT: LeBowitz, Jonathan H
;  APPLICANT:  Beverley, Stephen
;  TITLE OF INVENTION: TARGETED THERAPEUTIC PROTEINS
;  FILE REFERENCE: SYM-007CP
;  CURRENT APPLICATION NUMBER: US/10/272,483A
;  CURRENT FILING DATE:  2002-10-16
;  PRIOR APPLICATION NUMBER: US 60/287,531
;  PRIOR FILING DATE: 2001-04-30
;  PRIOR APPLICATION NUMBER: US 10/136,841
;  PRIOR FILING DATE: 2002-04-30
;  PRIOR APPLICATION NUMBER: US 60/384,452
;  PRIOR FILING DATE: 2002-05-29
;  PRIOR APPLICATION NUMBER: US 60/386,019
;  PRIOR FILING DATE: 2002-06-05
;  PRIOR APPLICATION NUMBER: US 60/408,816
;  PRIOR FILING DATE: 2002-09-06
;  PRIOR APPLICATION NUMBER: US 60/304,609
;  PRIOR FILING DATE: 2001-07-10
;  PRIOR APPLICATION NUMBER: US 60/329,461
;  PRIOR FILING DATE: 2001-10-15
;  PRIOR APPLICATION NUMBER: US 60/351,276
;  PRIOR FILING DATE: 2002-01-23
;  NUMBER OF SEQ ID NOS: 22
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 7
;   LENGTH: 70
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-272-483A-7

  Query Match           100.0%;  Score 385;  DB 15;  Length 70;
  Best Local Similarity  100.0%;  Pred. No. 2.2e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

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Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
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Db         61 CAPLKPAKSA 70


RESULT 12
US-10-444-262-1
; Sequence 1, Application US/10444262
; Publication No. US20040023883A1
; GENERAL INFORMATION:
;  APPLICANT: Dubaquie, Yves
;  APPLICANT:  Lowman, Henry
;  TITLE OF INVENTION: PROTEIN VARIANTS
;  FILE REFERENCE: P1712R1
;  CURRENT APPLICATION NUMBER: US/10/444,262
;  CURRENT FILING DATE:  2003-05-22
;  PRIOR APPLICATION NUMBER: US/09/724,478
;  PRIOR FILING DATE: 2000-11-28
;  PRIOR APPLICATION NUMBER: US/09/477,923
;  PRIOR FILING DATE: 2000-01-05
;  NUMBER OF SEQ ID NOS: 6
; SEQ ID NO 1
;   LENGTH: 70
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-444-262-1

  Query Match           100.0%;  Score 385;  DB 16;  Length 70;
  Best Local Similarity  100.0%;  Pred. No. 2.2e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
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Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         61 CAPLKPAKSA 70


RESULT 13
US-09-852-261-10
; Sequence 10, Application US/09852261
; Patent No. US20020083477A1
; GENERAL INFORMATION:
;  APPLICANT: GOLDSPINK, GEOFFREY
;  APPLICANT:  TERENGHI, GIORGIO
;  TITLE OF INVENTION: REPAIR OF NERVE DAMAGE
;  FILE REFERENCE: 117-351
;  CURRENT APPLICATION NUMBER: US/09/852,261
;  CURRENT FILING DATE:  2001-05-10
;  PRIOR APPLICATION NUMBER: GB 0011278.9
;  PRIOR FILING DATE: 2000-05-10
;  NUMBER OF SEQ ID NOS: 14
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 10
;   LENGTH: 105
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-852-261-10

  Query Match           100.0%;  Score 385;  DB 9;  Length 105;
  Best Local Similarity  100.0%;  Pred. No. 3.5e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
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Qy          61 CAPLKPAKSA 70
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Db          61 CAPLKPAKSA 70


RESULT 14
US-10-238-114-3
; Sequence 3, Application US/10238114
; Publication No. US20030100073A1
; GENERAL INFORMATION:
;  APPLICANT: Merial
;  APPLICANT:  ANDREONI , Christine Michele
;  TITLE OF INVENTION: IGF-1 AS FELINE VACCINE ADJUVANT, IN PARTICULAR AGAINST FELINE RE
;  FILE REFERENCE: 454313-3165.1
;  CURRENT APPLICATION NUMBER: US/10/238,114
;  CURRENT FILING DATE:  2002-09-10
;  PRIOR APPLICATION NUMBER: FR 01 11736
;  PRIOR FILING DATE: 2001-09-11
;  PRIOR APPLICATION NUMBER: US 60/318,666
;  PRIOR FILING DATE: 2001-09-12
;  NUMBER OF SEQ ID NOS: 20
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 3
;   LENGTH: 105
;   TYPE: PRT
;   ORGANISM: Felis catus
US-10-238-114-3

  Query Match             100.0%;  Score 385;  DB 14;  Length 105;
  Best Local Similarity   100.0%;  Pred. No. 3.5e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy           1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db           1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy          61 CAPLKPAKSA 70
               ||||||||||
Db          61 CAPLKPAKSA 70


RESULT 15
US-09-852-261-2
; Sequence 2, Application US/09852261
; Patent No. US20020083477A1
; GENERAL INFORMATION:
;  APPLICANT: GOLDSPINK, GEOFFREY
;  APPLICANT:  TERENGHI, GIORGIO
;  TITLE OF INVENTION: REPAIR OF NERVE DAMAGE
;  FILE REFERENCE: 117-351
;  CURRENT APPLICATION NUMBER: US/09/852,261
;  CURRENT FILING DATE:  2001-05-10
;  PRIOR APPLICATION NUMBER: GB 0011278.9
;  PRIOR FILING DATE: 2000-05-10
;  NUMBER OF SEQ ID NOS: 14
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 2
;   LENGTH: 110
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-852-261-2

  Query Match             100.0%;  Score 385;  DB 9;  Length 110;
  Best Local Similarity   100.0%;  Pred. No. 3.6e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy           1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db           1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy          61 CAPLKPAKSA 70
               ||||||||||
Db          61 CAPLKPAKSA 70


RESULT 16
US-10-179-046-14
; Sequence 14, Application US/10179046
; Publication No. US20030013154A1
;  GENERAL INFORMATION:
;       APPLICANT: Crawford, Kenneth
;                  Zaror, Isabel
;                  Innis, Michael
;       TITLE OF INVENTION: Pichia Secretory Leader for Protein
;                           Expression
;       NUMBER OF SEQUENCES: 40
;       CORRESPONDENCE ADDRESS:
;            ADDRESSEE: Chiron Corporation
;            STREET: 4560 Horton Street
;            CITY: Emeryville
;            STATE: California
;            COUNTRY: United States
;            ZIP: 94608
;       COMPUTER READABLE FORM:
;            MEDIUM TYPE: Floppy disk
;            COMPUTER: IBM PC compatible
;            OPERATING SYSTEM: PC-DOS/MS-DOS
;            SOFTWARE: PatentIn Release #1.0, Version #1.30
;       CURRENT APPLICATION DATA:
;            APPLICATION NUMBER: US/10/179,046
;            FILING DATE: 25-Jun-2002
;            CLASSIFICATION: <Unknown>
;       PRIOR APPLICATION DATA:
;            APPLICATION NUMBER: US/09/029,267
;            FILING DATE: <Unknown>
;       ATTORNEY/AGENT INFORMATION:
;            NAME: Chung, Ling-Fong
;            REGISTRATION NUMBER: 36,482
;            REFERENCE/DOCKET NUMBER: 1165.100
;       TELECOMMUNICATION INFORMATION:
;            TELEPHONE: (510) 601-2704
;            TELEFAX: (510) 655-3542
;  INFORMATION FOR SEQ ID NO: 14:
;       SEQUENCE CHARACTERISTICS:
;            LENGTH: 118 amino acids
;            TYPE: amino acid
;            STRANDEDNESS: single
;            TOPOLOGY: linear
;       MOLECULE TYPE: protein
;       SEQUENCE DESCRIPTION: SEQ ID NO: 14:
US-10-179-046-14

  Query Match             100.0%;  Score 385;  DB 14;  Length 118;
  Best Local Similarity   100.0%;  Pred. No. 3.9e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy           1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy          61 CAPLKPAKSA 70
               ||||||||||
Db         109 CAPLKPAKSA 118


RESULT 17
US-10-251-661-8
; Sequence 8, Application US/10251661
; Publication No. US20030166555A1
; GENERAL INFORMATION:
;  APPLICANT: Alberini, Cristina M.
;  APPLICANT:  Bear, Mark F.
;  TITLE OF INVENTION: Methods and Compositions for Regulating
;  TITLE OF INVENTION:  Memory Consolidation
;  FILE REFERENCE: 3499.1001-003
;  CURRENT APPLICATION NUMBER: US/10/251,661
```

```
;  CURRENT FILING DATE:  2002-09-20
;  PRIOR APPLICATION NUMBER: 60/193,614
;  PRIOR FILING DATE: 2000-03-31
;  PRIOR APPLICATION NUMBER: PCT/US01/10661
;  PRIOR FILING DATE: 2001-04-02
;  NUMBER OF SEQ ID NOS: 12
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 8
;   LENGTH: 137
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-251-661-8

  Query Match             100.0%;  Score 385;  DB 14;  Length 137;
  Best Local Similarity   100.0%;  Pred. No. 4.7e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         33 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 92

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         93 CAPLKPAKSA 102


RESULT 18
US-09-919-497-74
; Sequence 74, Application US/09919497
; Patent No. US20020106662A1
; GENERAL INFORMATION:
;  APPLICANT: Mutter, George L.
;  TITLE OF INVENTION: PROGNOSTIC CLASSIFICATION OF ENDOMETRIAL CANCER
;  FILE REFERENCE: B0801/7225
;  CURRENT APPLICATION NUMBER: US/09/919,497
;  CURRENT FILING DATE:  2001-07-31
;  PRIOR APPLICATION NUMBER: US 60/221,735
;  PRIOR FILING DATE: 2000-07-31
;  NUMBER OF SEQ ID NOS: 100
;  SOFTWARE: PatentIn version 3.0
; SEQ ID NO 74
;   LENGTH: 153
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-919-497-74

  Query Match             100.0%;  Score 385;  DB 9;  Length 153;
  Best Local Similarity   100.0%;  Pred. No. 5.3e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db        109 CAPLKPAKSA 118


RESULT 19
US-10-136-639-3
; Sequence 3, Application US/10136639
; Publication No. US20030072761A1
; GENERAL INFORMATION:
;  APPLICANT: LeBowitz, Jonathan
;  TITLE OF INVENTION: METHODS AND COMPOSITIONS FOR TARGETING PROTEINS ACROSS THE BLOOD
;  TITLE OF INVENTION:  BARRIER
;  FILE REFERENCE: SYM-008
;  CURRENT APPLICATION NUMBER: US/10/136,639
;  CURRENT FILING DATE:  2002-09-06
;  PRIOR APPLICATION NUMBER: US 60/329,650
;  PRIOR FILING DATE: 2001-10-16
;  NUMBER OF SEQ ID NOS: 4
;  SOFTWARE: PatentIn version 3.0
; SEQ ID NO 3
;   LENGTH: 153
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-136-639-3

  Query Match             100.0%;  Score 385;  DB 14;  Length 153;
  Best Local Similarity   100.0%;  Pred. No. 5.3e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db        109 CAPLKPAKSA 118


RESULT 20
US-10-238-114-2
; Sequence 2, Application US/10238114
; Publication No. US20030100073A1
; GENERAL INFORMATION:
;  APPLICANT: Merial
;  APPLICANT:  ANDREONI , Christine Michele
;  TITLE OF INVENTION: IGF-1 AS FELINE VACCINE ADJUVANT, IN PARTICULAR AGAINST FELINE R
;  FILE REFERENCE: 454313-3165.1
;  CURRENT APPLICATION NUMBER: US/10/238,114
;  CURRENT FILING DATE:  2002-09-10
;  PRIOR APPLICATION NUMBER: FR 01 11736
;  PRIOR FILING DATE: 2001-09-11
;  PRIOR APPLICATION NUMBER: US 60/318,666
;  PRIOR FILING DATE: 2001-09-12
;  NUMBER OF SEQ ID NOS: 20
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 2
;   LENGTH: 153
;   TYPE: PRT
;   ORGANISM: Felis catus
US-10-238-114-2

  Query Match             100.0%;  Score 385;  DB 14;  Length 153;
  Best Local Similarity   100.0%;  Pred. No. 5.3e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db        109 CAPLKPAKSA 118


RESULT 21
US-10-207-655-55
; Sequence 55, Application US/10207655
; Publication No. US20030118592A1
; GENERAL INFORMATION:
;  APPLICANT: Ledbetter, Jeffrey A.
;  APPLICANT:  Hayden-Ledbetter, Martha S.
;  TITLE OF INVENTION: BINDING DOMAIN-IMMUNOGLOBULIN FUSION PROTEINS
;  FILE REFERENCE: 390069.401C1
;  CURRENT APPLICATION NUMBER: US/10/207,655
;  CURRENT FILING DATE:  2002-07-25
;  NUMBER OF SEQ ID NOS: 426
;  SOFTWARE: PatentIn version 3.0
; SEQ ID NO 55
;   LENGTH: 153
;   TYPE: PRT
;   ORGANISM: Homo sapiens
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US-10-207-655-55

  Query Match             100.0%;  Score 385;  DB 14;  Length 153;
  Best Local Similarity   100.0%;  Pred. No. 5.3e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db        109 CAPLKPAKSA 118


RESULT 22
US-09-921-398-39
; Sequence 39, Application US/09921398
; Patent No. US20020055169A1
;   GENERAL INFORMATION:
;        APPLICANT: Tekamp-Olson, Patricia
;        TITLE OF INVENTION: METHOD FOR EXPRESSION OF HETEROLOGOUS
;                            PROTEINS IN YEAST
;        NUMBER OF SEQUENCES: 41
;        CORRESPONDENCE ADDRESS:
;             ADDRESSEE: Bell Seltzer IP Group of Alston & Bird, LLP
;             STREET: 3605 Glenwood Ave. Suite 310
;             CITY: Raleigh
;             STATE: NC
;             COUNTRY: US
;             ZIP: 27622
;        COMPUTER READABLE FORM:
;             MEDIUM TYPE: Floppy disk
;             COMPUTER: IBM PC compatible
;             OPERATING SYSTEM: PC-DOS/MS-DOS
;             SOFTWARE: PatentIn Release #1.0, Version #1.30
;        CURRENT APPLICATION DATA:
;             APPLICATION NUMBER: US/09/921,398
;             FILING DATE: 02-Aug-2001
;             CLASSIFICATION: <Unknown>
;        ATTORNEY/AGENT INFORMATION:
;             NAME: Spruill, W. Murray
;             REGISTRATION NUMBER: 32,943
;             REFERENCE/DOCKET NUMBER: 5784-4
;        TELECOMMUNICATION INFORMATION:
;             TELEPHONE: 919 420 2202
;             TELEFAX: 919 881 3175
;   INFORMATION FOR SEQ ID NO: 39:
;        SEQUENCE CHARACTERISTICS:
;             LENGTH: 155 amino acids
;             TYPE: amino acid
;             TOPOLOGY: linear
;        MOLECULE TYPE: protein
;        SEQUENCE DESCRIPTION: SEQ ID NO: 39:
US-09-921-398-39

  Query Match             100.0%;  Score 385;  DB 9;  Length 155;
  Best Local Similarity   100.0%;  Pred. No. 5.3e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         86 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 145

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db        146 CAPLKPAKSA 155


RESULT 23
US-10-280-826-39
; Sequence 39, Application US/10280826
; Publication No. US20030077831A1
;   GENERAL INFORMATION:
;        APPLICANT: Tekamp-Olson, Patricia
;        TITLE OF INVENTION: METHOD FOR EXPRESSION OF HETEROLOGOUS
;                            PROTEINS IN YEAST
;        NUMBER OF SEQUENCES: 41
;        CORRESPONDENCE ADDRESS:
;             ADDRESSEE: Bell Seltzer IP Group of Alston & Bird, LLP
;             STREET: 3605 Glenwood Ave. Suite 310
;             CITY: Raleigh
;             STATE: NC
;             COUNTRY: US
;             ZIP: 27622
;        COMPUTER READABLE FORM:
;             MEDIUM TYPE: Floppy disk
;             COMPUTER: IBM PC compatible
;             OPERATING SYSTEM: PC-DOS/MS-DOS
;             SOFTWARE: PatentIn Release #1.0, Version #1.30
;        CURRENT APPLICATION DATA:
;             APPLICATION NUMBER: US/10/280,826
;             FILING DATE: 25-Oct-2002
;             CLASSIFICATION: <Unknown>
;        PRIOR APPLICATION DATA:
;             APPLICATION NUMBER: US/08/989,251
;             FILING DATE: <Unknown>
;        ATTORNEY/AGENT INFORMATION:
;             NAME: Spruill, W. Murray
;             REGISTRATION NUMBER: 32,943
;             REFERENCE/DOCKET NUMBER: 5784-4
;        TELECOMMUNICATION INFORMATION:
;             TELEPHONE: 919 420 2202
;             TELEFAX: 919 881 3175
;   INFORMATION FOR SEQ ID NO: 39:
;        SEQUENCE CHARACTERISTICS:
;             LENGTH: 155 amino acids
;             TYPE: amino acid
;             TOPOLOGY: linear
;        MOLECULE TYPE: protein
;        SEQUENCE DESCRIPTION: SEQ ID NO: 39:
US-10-280-826-39

  Query Match             100.0%;  Score 385;  DB 14;  Length 155;
  Best Local Similarity   100.0%;  Pred. No. 5.3e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         86 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 145

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db        146 CAPLKPAKSA 155


RESULT 24
US-09-921-398-41
; Sequence 41, Application US/09921398
; Patent No. US20020055169A1
;   GENERAL INFORMATION:
;        APPLICANT: Tekamp-Olson, Patricia
;        TITLE OF INVENTION: METHOD FOR EXPRESSION OF HETEROLOGOUS
;                            PROTEINS IN YEAST
;        NUMBER OF SEQUENCES: 41
;        CORRESPONDENCE ADDRESS:
;             ADDRESSEE: Bell Seltzer IP Group of Alston & Bird, LLP
;             STREET: 3605 Glenwood Ave. Suite 310
;             CITY: Raleigh
;             STATE: NC
;             COUNTRY: US
;             ZIP: 27622
;        COMPUTER READABLE FORM:
;             MEDIUM TYPE: Floppy disk
;             COMPUTER: IBM PC compatible
;             OPERATING SYSTEM: PC-DOS/MS-DOS
```

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;           SOFTWARE: PatentIn Release #1.0, Version #1.30
;       CURRENT APPLICATION DATA:
;           APPLICATION NUMBER: US/09/921,398
;           FILING DATE: 02-Aug-2001
;           CLASSIFICATION: <Unknown>
;       ATTORNEY/AGENT INFORMATION:
;           NAME: Spruill, W. Murray
;           REGISTRATION NUMBER: 32,943
;           REFERENCE/DOCKET NUMBER: 5784-4
;       TELECOMMUNICATION INFORMATION:
;           TELEPHONE: 919 420 2202
;           TELEFAX: 919 881 3175
;   INFORMATION FOR SEQ ID NO: 41:
;       SEQUENCE CHARACTERISTICS:
;           LENGTH: 191 amino acids
;           TYPE: amino acid
;           TOPOLOGY: linear
;       MOLECULE TYPE: protein
;       SEQUENCE DESCRIPTION: SEQ ID NO: 41:
US-09-921-398-41

  Query Match            100.0%;  Score 385;  DB 9;  Length 191;
  Best Local Similarity  100.0%;  Pred. No. 6.7e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         86 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 145

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db        146 CAPLKPAKSA 155


RESULT 25
US-10-280-826-41
; Sequence 41, Application US/10280826
; Publication No. US20030077831A1
;   GENERAL INFORMATION:
;       APPLICANT: Tekamp-Olson, Patricia
;       TITLE OF INVENTION: METHOD FOR EXPRESSION OF HETEROLOGOUS
;                           PROTEINS IN YEAST
;       NUMBER OF SEQUENCES: 41
;       CORRESPONDENCE ADDRESS:
;           ADDRESSEE: Bell Seltzer IP Group of Alston & Bird, LLP
;           STREET: 3605 Glenwood Ave. Suite 310
;           CITY: Raleigh
;           STATE: NC
;           COUNTRY: US
;           ZIP: 27622
;       COMPUTER READABLE FORM:
;           MEDIUM TYPE: Floppy disk
;           COMPUTER: IBM PC compatible
;           OPERATING SYSTEM: PC-DOS/MS-DOS
;           SOFTWARE: PatentIn Release #1.0, Version #1.30
;       CURRENT APPLICATION DATA:
;           APPLICATION NUMBER: US/10/280,826
;           FILING DATE: 25-Oct-2002
;           CLASSIFICATION: <Unknown>
;       PRIOR APPLICATION DATA:
;           APPLICATION NUMBER: US/08/989,251
;           FILING DATE: <Unknown>
;       ATTORNEY/AGENT INFORMATION:
;           NAME: Spruill, W. Murray
;           REGISTRATION NUMBER: 32,943
;           REFERENCE/DOCKET NUMBER: 5784-4
;       TELECOMMUNICATION INFORMATION:
;           TELEPHONE: 919 420 2202
;           TELEFAX: 919 881 3175
;   INFORMATION FOR SEQ ID NO: 41:
;       SEQUENCE CHARACTERISTICS:
;           LENGTH: 191 amino acids
;           TYPE: amino acid
;           TOPOLOGY: linear
;       MOLECULE TYPE: protein
;       SEQUENCE DESCRIPTION: SEQ ID NO: 41:
US-10-280-826-41

  Query Match            100.0%;  Score 385;  DB 14;  Length 191;
  Best Local Similarity  100.0%;  Pred. No. 6.7e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         86 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 145

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db        146 CAPLKPAKSA 155


RESULT 26
US-10-443-466A-20
; Sequence 20, Application US/10443466A
; Publication No. US20040018191A1
; GENERAL INFORMATION:
;  APPLICANT: Wang, Yan
;  APPLICANT:  Pachter, Jonathan A
;  APPLICANT:  Hailey,  Judith
;  APPLICANT:  Greenberg, Robert
;  APPLICANT:  Leonard, Presta
;  APPLICANT:  Brams, Peter
;  APPLICANT:  Feingersh, Diane
;  APPLICANT:  Williams, Denise
;  APPLICANT:  Srinivasan, Mohan
;  TITLE OF INVENTION: NEUTRALIZING HUMAN ANTI-IGFR ANTIBODY
;  FILE REFERENCE: OC01533-K-US
;  CURRENT APPLICATION NUMBER: US/10/443,466A
;  CURRENT FILING DATE:  2003-05-22
;  PRIOR APPLICATION NUMBER: 60/383,459
;  PRIOR FILING DATE: 2002-05-24
;  PRIOR APPLICATION NUMBER: 60/393,214
;  PRIOR FILING DATE: 2002-07-02
;  PRIOR APPLICATION NUMBER: 60/436,254
;  PRIOR FILING DATE: 2002-12-23
;  NUMBER OF SEQ ID NOS: 120
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 20
;   LENGTH: 195
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-443-466A-20

  Query Match            100.0%;  Score 385;  DB 15;  Length 195;
  Best Local Similarity  100.0%;  Pred. No. 6.9e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db        109 CAPLKPAKSA 118


RESULT 27
US-09-903-327A-12
; Sequence 12, Application US/09903327A
; Patent No. US20020164333A1
; GENERAL INFORMATION:
;  APPLICANT: Nemerow, Glen R.
;  APPLICANT:  Li, Erguang
;  TITLE OF INVENTION: BIFUNCTIONAL MOLECULES AND VECTORS COMPLEXED THEREWITH FOR TARGE
;  TITLE OF INVENTION:  GENE
;  TITLE OF INVENTION:  DELIVERY
```

```
;  FILE REFERENCE: 22908-1228
;  CURRENT APPLICATION NUMBER: US/09/903,327A
;  CURRENT FILING DATE:  2001-07-10
;  PRIOR APPLICATION NUMBER: 09/613,017
;  PRIOR FILING DATE: 2000-07-10
;  NUMBER OF SEQ ID NOS: 33
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 12
;   LENGTH: 510
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Fusion protein with N-terminal portion of DAV-1 heavy chain
;   OTHER INFORMATION: and IGF-1 mature peptide
US-09-903-327A-12

  Query Match             100.0%;  Score 385;  DB 9;  Length 510;
  Best Local Similarity   100.0%;  Pred. No. 2e-39;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        441 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 500

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db        501 CAPLKPAKSA 510


RESULT 28
US-10-241-596-14
; Sequence 14, Application US/10241596
; Publication No. US20030166238A1
; GENERAL INFORMATION:
;  APPLICANT: Microbiological Research Authority
;  APPLICANT:  The Speywood Laboratory Limited
;  TITLE OF INVENTION: Recombinant Toxin Fragments
;  FILE REFERENCE: 1581.0130003
;  CURRENT APPLICATION NUMBER: US/10/241,596
;  CURRENT FILING DATE:  2002-09-12
;  PRIOR APPLICATION NUMBER: US 09/255,829
;  PRIOR FILING DATE: 1999-02-23
;  PRIOR APPLICATION NUMBER: US 09/242,689
;  PRIOR FILING DATE: 1999-02-23
;  PRIOR APPLICATION NUMBER: PCT/GB97/02273
;  PRIOR FILING DATE: 1997-08-22
;  PRIOR APPLICATION NUMBER: US 08/782,893
;  PRIOR FILING DATE: 1996-12-27
;  PRIOR APPLICATION NUMBER: GB 9625996.5
;  PRIOR FILING DATE: 1996-12-13
;  PRIOR APPLICATION NUMBER: GB 9617671.4
;  PRIOR FILING DATE: 1996-08-23
;  NUMBER OF SEQ ID NOS: 175
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 14
;   LENGTH: 953
;   TYPE: PRT
;   ORGANISM: Clostridium botulinum
US-10-241-596-14

  Query Match             100.0%;  Score 385;  DB 14;  Length 953;
  Best Local Similarity   100.0%;  Pred. No. 4.1e-39;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        882 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 941

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db        942 CAPLKPAKSA 951


RESULT 29
US-09-852-261-14
; Sequence 14, Application US/09852261
; Patent No. US20020083477A1
; GENERAL INFORMATION:
;  APPLICANT: GOLDSPINK, GEOFFREY
;  APPLICANT:  TERENGHI, GIORGIO
;  TITLE OF INVENTION: REPAIR OF NERVE DAMAGE
;  FILE REFERENCE: 117-351
;  CURRENT APPLICATION NUMBER: US/09/852,261
;  CURRENT FILING DATE:  2001-05-10
;  PRIOR APPLICATION NUMBER: GB 0011278.9
;  PRIOR FILING DATE: 2000-05-10
;  NUMBER OF SEQ ID NOS: 14
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 14
;   LENGTH: 105
;   TYPE: PRT
;   ORGANISM: Oryctolagus cuniculus
US-09-852-261-14

  Query Match             99.2%;  Score 382;  DB 9;  Length 105;
  Best Local Similarity   98.6%;  Pred. No. 8.2e-40;
  Matches   69;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              |||||||||:|
Db         61 CAPLKPAKAA 70


RESULT 30
US-09-852-261-6
; Sequence 6, Application US/09852261
; Patent No. US20020083477A1
; GENERAL INFORMATION:
;  APPLICANT: GOLDSPINK, GEOFFREY
;  APPLICANT:  TERENGHI, GIORGIO
;  TITLE OF INVENTION: REPAIR OF NERVE DAMAGE
;  FILE REFERENCE: 117-351
;  CURRENT APPLICATION NUMBER: US/09/852,261
;  CURRENT FILING DATE:  2001-05-10
;  PRIOR APPLICATION NUMBER: GB 0011278.9
;  PRIOR FILING DATE: 2000-05-10
;  NUMBER OF SEQ ID NOS: 14
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 6
;   LENGTH: 111
;   TYPE: PRT
;   ORGANISM: Oryctolagus cuniculus
US-09-852-261-6

  Query Match             99.2%;  Score 382;  DB 9;  Length 111;
  Best Local Similarity   98.6%;  Pred. No. 8.7e-40;
  Matches   69;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              |||||||||:|
Db         61 CAPLKPAKAA 70


RESULT 31
US-10-323-046-42
; Sequence 42, Application US/10323046
; Publication No. US20030187232A1
; GENERAL INFORMATION:
```

```
;  APPLICANT: Hubbell, Jeffrey A
;  APPLICANT:  Schense, Jason C
;  APPLICANT:  Sakiyama-Elbert, Shelly E
;  TITLE OF INVENTION: Growth Factor Modified Protein Matrices for Tissue
;  TITLE OF INVENTION:  Engineering
;  FILE REFERENCE: ETH 107 CIP (2)
;  CURRENT APPLICATION NUMBER: US/10/323,046
;  CURRENT FILING DATE:  2002-12-17
;  PRIOR APPLICATION NUMBER: 09/141,153
;  PRIOR FILING DATE: 1998-08-27
;  NUMBER OF SEQ ID NOS: 43
;  SOFTWARE: PatentIn Ver. 3.1
; SEQ ID NO 42
;   LENGTH: 91
;   TYPE: PRT
;   ORGANISM: Artificial sequence
;   FEATURE:
;   OTHER INFORMATION: Modified IGF 1 from Homo sapiens
US-10-323-046-42

  Query Match             98.2%;  Score 378;  DB 14;  Length 91;
  Best Local Similarity   98.6%;  Pred. No. 2.2e-39;
  Matches   69;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||| ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         22 GPEYLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 81

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         82 CAPLKPAKSA 91


RESULT 32
US-10-161-088-2
; Sequence 2, Application US/10161088
; Publication No. US20030077761A1
; GENERAL INFORMATION:
;  APPLICANT: Parrow, Vendela
;  APPLICANT:  Rosengren, Linda
;  TITLE OF INVENTION: NEW METHODS
;  FILE REFERENCE: 13425-111001
;  CURRENT APPLICATION NUMBER: US/10/161,088
;  CURRENT FILING DATE:  2002-05-31
;  PRIOR APPLICATION NUMBER: SE 0101934-8
;  PRIOR FILING DATE: 2001-06-01
;  NUMBER OF SEQ ID NOS: 3
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 2
;   LENGTH: 133
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-161-088-2

  Query Match             94.8%;  Score 365;  DB 14;  Length 133;
  Best Local Similarity   94.3%;  Pred. No. 1.4e-37;
  Matches   66;  Conservative    1;  Mismatches    3;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| ||||||||||||| ||||||||||||||||||||||||||
Db         23 GPETLCGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 82

Qy         61 CAPLKPAKSA 70
              |||||| |:|
Db         83 CAPLKPTKAA 92


RESULT 33
US-09-852-261-12
; Sequence 12, Application US/09852261
; Patent No. US20020083477A1
; GENERAL INFORMATION:
;  APPLICANT: GOLDSPINK, GEOFFREY
;  APPLICANT:  TERENGHI, GIORGIO
;  TITLE OF INVENTION: REPAIR OF NERVE DAMAGE
;  FILE REFERENCE: 117-351
;  CURRENT APPLICATION NUMBER: US/09/852,261
;  CURRENT FILING DATE:  2001-05-10
;  PRIOR APPLICATION NUMBER: GB 0011278.9
;  PRIOR FILING DATE: 2000-05-10
;  NUMBER OF SEQ ID NOS: 14
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 12
;   LENGTH: 105
;   TYPE: PRT
;   ORGANISM: Rattus sp.
US-09-852-261-12

  Query Match             88.6%;  Score 341;  DB 9;  Length 105;
  Best Local Similarity   90.0%;  Pred. No. 1e-34;
  Matches   63;  Conservative    0;  Mismatches    7;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| ||||||||| |||| ||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              |   || |||
Db         61 CVRCKPTKSA 70


RESULT 34
US-09-852-261-4
; Sequence 4, Application US/09852261
; Patent No. US20020083477A1
; GENERAL INFORMATION:
;  APPLICANT: GOLDSPINK, GEOFFREY
;  APPLICANT:  TERENGHI, GIORGIO
;  TITLE OF INVENTION: REPAIR OF NERVE DAMAGE
;  FILE REFERENCE: 117-351
;  CURRENT APPLICATION NUMBER: US/09/852,261
;  CURRENT FILING DATE:  2001-05-10
;  PRIOR APPLICATION NUMBER: GB 0011278.9
;  PRIOR FILING DATE: 2000-05-10
;  NUMBER OF SEQ ID NOS: 14
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 4
;   LENGTH: 111
;   TYPE: PRT
;   ORGANISM: Rattus sp.
US-09-852-261-4

  Query Match             88.6%;  Score 341;  DB 9;  Length 111;
  Best Local Similarity   90.0%;  Pred. No. 1.1e-34;
  Matches   63;  Conservative    0;  Mismatches    7;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| ||||||||| |||| ||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              |   || |||
Db         61 CVRCKPTKSA 70


RESULT 35
US-10-339-740-218
; Sequence 218, Application US/10339740
; Publication No. US20030187246A1
; GENERAL INFORMATION:
;  APPLICANT: Doberstein, Stephen
;  APPLICANT:  Reddy, Bindu
;  APPLICANT:  Platt, Darren
;  APPLICANT:  Ferguson, Kimberly
;  TITLE OF INVENTION: NUCLEIC ACIDS AND PROTEINS OF C. ELEGANS INSULIN-LIKE GENES AND
;  TITLE OF INVENTION:  THEREOF
```

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;  FILE REFERENCE: 7326-069-999
;  CURRENT APPLICATION NUMBER: US/10/339,740
;  CURRENT FILING DATE:  2003-01-09
;  PRIOR APPLICATION NUMBER: US/09/084,303A
;  PRIOR FILING DATE: 1998-05-26
;  NUMBER OF SEQ ID NOS: 298
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 218
;   LENGTH: 68
;   TYPE: PRT
;   ORGANISM: Homo sapiens
;   FEATURE:
;   NAME/KEY: misc_feature
;   LOCATION: (30)..(37)
;   OTHER INFORMATION: Xaa = Any amino Acid
US-10-339-740-218

  Query Match             82.3%;  Score 317;  DB 14;  Length 68;
  Best Local Similarity   85.7%;  Pred. No. 6.1e-32;
  Matches   60;  Conservative    0;  Mismatches    8;  Indels    2;  Gaps    1;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||          ||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPT--XXXXXXXXQTGIVDECCFRSCDLRRLEMY 58

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         59 CAPLKPAKSA 68


RESULT 36
US-10-066-009A-5
; Sequence 5, Application US/10066009A
; Publication No. US20020165155A1
; GENERAL INFORMATION:
;  APPLICANT: Schaffer, Michelle
;  APPLICANT:  Ultsch, Mark
;  APPLICANT:  Vajdos, Felix
;  TITLE OF INVENTION: CRYSTALLIZATION OF IGF-1
;  FILE REFERENCE: P1869R1
;  CURRENT APPLICATION NUMBER: US/10/066,009A
;  CURRENT FILING DATE:  2002-06-24
;  PRIOR APPLICATION NUMBER: US 60/287,072
;  PRIOR FILING DATE: 2001-04-27
;  PRIOR APPLICATION NUMBER: US 60/267,977
;  PRIOR FILING DATE: 2001-02-09
;  NUMBER OF SEQ ID NOS: 5
; SEQ ID NO 5
;   LENGTH: 56
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Residues observed in IGF-1 structure.
US-10-066-009A-5

  Query Match             77.9%;  Score 300;  DB 13;  Length 56;
  Best Local Similarity   90.3%;  Pred. No. 6.4e-30;
  Matches   56;  Conservative    0;  Mismatches    0;  Indels    6;  Gaps    1;

Qy          3 ETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMYCA 62
              ||||||||||||||||||||||||||||||      ||||||||||||||||||||||
Db          1 ETLCGAELVDALQFVCGDRGFYFNKPTGYGSS------TGIVDECCFRSCDLRRLEMYCA 54

Qy         63 PL 64
              ||
Db         55 PL 56


RESULT 37
US-09-205-658-138
; Sequence 138, Application US/09205658
; Patent No. US20010029617A1
; GENERAL INFORMATION:
;  APPLICANT: Ruvkun, Gary
;  APPLICANT: Ogg, Scott
;  TITLE OF INVENTION: THERAPEUTIC AND DIAGNOSTIC TOOLS FOR
;  TITLE OF INVENTION: IMPAIRED GLUCOSE TOLERANCE CONDITIONS
;  FILE REFERENCE: 00786/351004
;  CURRENT APPLICATION NUMBER: US/09/205,658
;  CURRENT FILING DATE: 1998-12-03
;  EARLIER APPLICATION NUMBER: 08/857,076
;  EARLIER FILING DATE: 1997-05-15
;  EARLIER APPLICATION NUMBER: 08/888,534
;  EARLIER FILING DATE: 1997-07-07
;  EARLIER APPLICATION NUMBER: US98/10080
;  EARLIER FILING DATE: 1998-05-15
;  NUMBER OF SEQ ID NOS: 328
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 138
;   LENGTH: 46
;   TYPE: PRT
;   ORGANISM: Bos taurus
;   FEATURE:
;   NAME/KEY: VARIANT
;   LOCATION: (1)...(46)
;   OTHER INFORMATION: Xaa = Any Amino Acid
US-09-205-658-138

  Query Match             58.1%;  Score 223.5;  DB 9;  Length 46;
  Best Local Similarity   75.4%;  Pred. No. 1.7e-20;
  Matches   43;  Conservative    0;  Mismatches    3;  Indels   11;  Gaps    1;

Qy          5 LCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMYC 61
              |||||||||||||||||          ||||||||||||||||||||||||
Db          1 LCGAELVDALQFVCGDRGF----------XXXAPQTGIVDECCFRSCDLRRLEMYC 46


RESULT 38
US-09-205-658-139
; Sequence 139, Application US/09205658
; Patent No. US20010029617A1
; GENERAL INFORMATION:
;  APPLICANT: Ruvkun, Gary
;  APPLICANT: Ogg, Scott
;  TITLE OF INVENTION: THERAPEUTIC AND DIAGNOSTIC TOOLS FOR
;  TITLE OF INVENTION: IMPAIRED GLUCOSE TOLERANCE CONDITIONS
;  FILE REFERENCE: 00786/351004
;  CURRENT APPLICATION NUMBER: US/09/205,658
;  CURRENT FILING DATE: 1998-12-03
;  EARLIER APPLICATION NUMBER: 08/857,076
;  EARLIER FILING DATE: 1997-05-15
;  EARLIER APPLICATION NUMBER: 08/888,534
;  EARLIER FILING DATE: 1997-07-07
;  EARLIER APPLICATION NUMBER: US98/10080
;  EARLIER FILING DATE: 1998-05-15
;  NUMBER OF SEQ ID NOS: 328
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 139
;   LENGTH: 46
;   TYPE: PRT
;   ORGANISM: Canis
;   FEATURE:
;   NAME/KEY: VARIANT
;   LOCATION: (1)...(46)
;   OTHER INFORMATION: Xaa = Any Amino Acid
US-09-205-658-139

  Query Match             58.1%;  Score 223.5;  DB 9;  Length 46;
  Best Local Similarity   75.4%;  Pred. No. 1.7e-20;
  Matches   43;  Conservative    0;  Mismatches    3;  Indels   11;  Gaps    1;

Qy          5 LCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMYC 61
              |||||||||||||||||          ||||||||||||||||||||||||
Db          1 LCGAELVDALQFVCGDRGF----------XXXAPQTGIVDECCFRSCDLRRLEMYC 46
```

```
RESULT 39
US-09-963-693-138
; Sequence 138, Application US/09963693
; Publication No. US20030181364A1
; GENERAL INFORMATION:
;  APPLICANT: Ruvkun, Gary
;  APPLICANT:  Ogg, Scott
;  TITLE OF INVENTION: THERAPEUTIC AND DIAGNOSTIC TOOLS FOR
;  TITLE OF INVENTION:  IMPAIRED GLUCOSE TOLERANCE CONDITIONS
;  FILE REFERENCE: 00786/351004
;  CURRENT APPLICATION NUMBER: US/09/963,693
;  CURRENT FILING DATE:  2001-09-25
;  PRIOR APPLICATION NUMBER: US/09/205,658
;  PRIOR FILING DATE: 1998-12-03
;  PRIOR APPLICATION NUMBER: 08/857,076
;  PRIOR FILING DATE: 1997-05-15
;  PRIOR APPLICATION NUMBER: 08/888,534
;  PRIOR FILING DATE: 1997-07-07
;  PRIOR APPLICATION NUMBER: US98/10080
;  PRIOR FILING DATE: 1998-05-15
;  NUMBER OF SEQ ID NOS: 328
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 138
;   LENGTH: 46
;   TYPE: PRT
;   ORGANISM: Bos taurus
;   FEATURE:
;   NAME/KEY: VARIANT
;   LOCATION: (1)...(46)
;   OTHER INFORMATION: Xaa = Any Amino Acid
US-09-963-693-138

  Query Match             58.1%;  Score 223.5;  DB 10;  Length 46;
  Best Local Similarity   75.4%;  Pred. No. 1.7e-20;
  Matches   43;  Conservative    0;  Mismatches    3;  Indels   11;  Gaps    1;

Qy          5 LCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMYC 61
              |||||||||||||||||||              ||||||||||||||||||||||||
Db          1 LCGAELVDALQFVCGDRGF----------XXXAPQTGIVDECCFRSCDLRRLEMYC 46


RESULT 40
US-09-963-693-139
; Sequence 139, Application US/09963693
; Publication No. US20030181364A1
; GENERAL INFORMATION:
;  APPLICANT: Ruvkun, Gary
;  APPLICANT:  Ogg, Scott
;  TITLE OF INVENTION: THERAPEUTIC AND DIAGNOSTIC TOOLS FOR
;  TITLE OF INVENTION:  IMPAIRED GLUCOSE TOLERANCE CONDITIONS
;  FILE REFERENCE: 00786/351004
;  CURRENT APPLICATION NUMBER: US/09/963,693
;  CURRENT FILING DATE:  2001-09-25
;  PRIOR APPLICATION NUMBER: US/09/205,658
;  PRIOR FILING DATE: 1998-12-03
;  PRIOR APPLICATION NUMBER: 08/857,076
;  PRIOR FILING DATE: 1997-05-15
;  PRIOR APPLICATION NUMBER: 08/888,534
;  PRIOR FILING DATE: 1997-07-07
;  PRIOR APPLICATION NUMBER: US98/10080
;  PRIOR FILING DATE: 1998-05-15
;  NUMBER OF SEQ ID NOS: 328
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 139
;   LENGTH: 46
;   TYPE: PRT
;   ORGANISM: Canis
;   FEATURE:
;   NAME/KEY: VARIANT
;   LOCATION: (1)...(46)
;   OTHER INFORMATION: Xaa = Any Amino Acid
US-09-963-693-139

  Query Match             58.1%;  Score 223.5;  DB 10;  Length 46;
  Best Local Similarity   75.4%;  Pred. No. 1.7e-20;
  Matches   43;  Conservative    0;  Mismatches    3;  Indels   11;  Gaps    1;

Qy          5 LCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMYC 61
              |||||||||||||||||||              ||||||||||||||||||||||||
Db          1 LCGAELVDALQFVCGDRGF----------XXXAPQTGIVDECCFRSCDLRRLEMYC 46


Search completed: February 25, 2004, 06:33:32
Job time : 30.1241 secs
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GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: February 25, 2004, 06:20:43 ; Search time 16.8613 Seconds
(without alignments)
214.326 Million cell updates/sec

Title: US-10-066-009A-1
Perfect score: 385
Sequence: 1 GPETLCGAELVDALQFVCGD.....SCDLRRLEMYCAPLKPAKSA 70

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 389414 seqs, 51625971 residues

Total number of hits satisfying chosen parameters: 389414

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Issued_Patents_AA:*
1: /cgn2_6/ptodata/2/iaa/5A_COMB.pep:*
2: /cgn2_6/ptodata/2/iaa/5B_COMB.pep:*
3: /cgn2_6/ptodata/2/iaa/6A_COMB.pep:*
4: /cgn2_6/ptodata/2/iaa/6B_COMB.pep:*
5: /cgn2_6/ptodata/2/iaa/PCTUS_COMB.pep:*
6: /cgn2_6/ptodata/2/iaa/backfiles1.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	385	100.0	70	1	US-07-947-035-1	Sequence 1, Appli
2	385	100.0	70	1	US-07-776-272-17	Sequence 17, Appl
3	385	100.0	70	1	US-07-958-903A-17	Sequence 17, Appl
4	385	100.0	70	1	US-08-462-018-17	Sequence 17, Appl
5	385	100.0	70	1	US-08-823-245-17	Sequence 17, Appl
6	385	100.0	70	1	US-08-482-271-1	Sequence 1, Appli
7	385	100.0	70	3	US-09-080-120A-1	Sequence 1, Appli
8	385	100.0	70	3	US-08-432-517-1	Sequence 1, Appli
9	385	100.0	70	4	US-07-963-329A-1	Sequence 1, Appli
10	385	100.0	70	4	US-09-477-924-1	Sequence 1, Appli
11	385	100.0	70	4	US-09-723-981-1	Sequence 1, Appli
12	385	100.0	70	4	US-09-723-896-1	Sequence 1, Appli
13	385	100.0	70	5	PCT-US92-09443A-1	Sequence 1, Appli
14	385	100.0	70	5	PCT-US93-11458-1	Sequence 1, Appli
15	385	100.0	70	5	PCT-US95-08925-1	Sequence 1, Appli
16	385	100.0	94	1	US-07-989-845-28	Sequence 28, Appl
17	385	100.0	94	1	US-07-989-844-12	Sequence 12, Appl
18	385	100.0	94	1	US-08-161-044-12	Sequence 12, Appl
19	385	100.0	94	1	US-08-240-121-12	Sequence 12, Appl
20	385	100.0	94	1	US-08-451-241-12	Sequence 12, Appl
21	385	100.0	94	5	PCT-US93-11297-12	Sequence 12, Appl
22	385	100.0	94	5	PCT-US93-11298-28	Sequence 28, Appl
23	385	100.0	118	3	US-09-029-267-14	Sequence 14, Appl
24	385	100.0	137	1	US-07-953-230A-10	Sequence 10, Appl
25	385	100.0	152	3	US-08-950-720A-9	Sequence 9, Appli
26	385	100.0	153	1	US-08-219-878A-1	Sequence 1, Appli
27	385	100.0	153	5	PCT-US93-04329-1	Sequence 1, Appli
28	385	100.0	155	1	US-08-328-961-8	Sequence 8, Appli
29	385	100.0	155	1	US-08-462-397-8	Sequence 8, Appli
30	385	100.0	155	3	US-08-989-251-39	Sequence 39, Appl
31	385	100.0	155	3	US-09-340-250-39	Sequence 39, Appl
32	385	100.0	155	4	US-09-528-108-39	Sequence 39, Appl
33	385	100.0	156	3	US-09-142-583A-11	Sequence 11, Appl
34	385	100.0	191	3	US-08-989-251-41	Sequence 41, Appl
35	385	100.0	191	3	US-09-340-250-41	Sequence 41, Appl
36	385	100.0	191	4	US-09-528-108-41	Sequence 41, Appl
37	385	100.0	953	4	US-09-255-829-14	Sequence 14, Appl
38	382	99.2	70	1	US-08-180-572-5	Sequence 5, Appli
39	382	99.2	121	3	US-09-142-583A-4	Sequence 4, Appli
40	380	98.7	83	1	US-07-947-035-18	Sequence 18, Appl
41	380	98.7	83	1	US-08-321-585A-12	Sequence 12, Appl
42	378	98.2	119	6	5405942-1	Patent No. 5405942
43	377	97.9	70	6	5470828-1	Patent No. 5470828
44	376	97.7	70	1	US-07-654-611-2	Sequence 2, Appli
45	376	97.7	155	1	US-07-654-611-1	Sequence 1, Appli

ALIGNMENTS

RESULT 1
US-07-947-035-1
; Sequence 1, Application US/07947035
; Patent No. 5444045
; GENERAL INFORMATION:
; APPLICANT: Francis, Geoffrey L.
; APPLICANT: Walton, Paul E.
; APPLICANT: Ballard, Francis J.
; APPLICANT: McMurty, John P.
; APPLICANT: Phelps, Patricia V.
; TITLE OF INVENTION: Method of Administering IGF-1, IGF-2,
; TITLE OF INVENTION: and Analogs Thereof to Birds
; NUMBER OF SEQUENCES: 18
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Kenneth D. Sibley
; STREET: P.O. Drawer 34009
; CITY: Charlotte
; STATE: No. 5444045th Carolina
; COUNTRY: US
; ZIP: 28234
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/947,035
; FILING DATE: 17-SEP-1992
; CLASSIFICATION: 514
; ATTORNEY/AGENT INFORMATION:
; NAME: Sibley, Kenneth D.
; REGISTRATION NUMBER: 31,665
; REFERENCE/DOCKET NUMBER: 5175-59
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (919) 881-3140
; TELEFAX: (919) 881-3175
; TELEX: 575102
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 70 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; HYPOTHETICAL: NO
US-07-947-035-1

Query Match 100.0%; Score 385; DB 1; Length 70;
Best Local Similarity 100.0%; Pred. No. 3.3e-40;
Matches 70; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         61 CAPLKPAKSA 70


RESULT 2
US-07-776-272-17
; Sequence 17, Application US/07776272
; Patent No. 5612454
;  GENERAL INFORMATION:
;    APPLICANT:  Kaminuma, Toshihiko
;    APPLICANT:  Iida, Toshii
;    APPLICANT:  Tajima, Masahiro
;    TITLE OF INVENTION:  Process for Purification of Polypeptide
;    NUMBER OF SEQUENCES:  31
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Wegner, Cantor, Mueller & Player
;      STREET:  1233 20th St. N.W.  P.O. Box 18218
;      CITY:  Washington
;      STATE:  District of Columbia
;      COUNTRY:  United States of America
;      ZIP:  20036-8218
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/07/776,272
;      FILING DATE:  19911129
;      CLASSIFICATION:  530
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Player, William E
;      REGISTRATION NUMBER:  31,409
;      REFERENCE/DOCKET NUMBER:  P-450-23167
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  202-887-0400
;      TELEFAX:  202-887-0605
;      TELEX:  440706
;  INFORMATION FOR SEQ ID NO:  17:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  70 amino acids
;      TYPE:  AMINO ACID
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
;    HYPOTHETICAL:  YES
US-07-776-272-17

  Query Match             100.0%;  Score 385;  DB 1;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 3.3e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         61 CAPLKPAKSA 70


RESULT 3
US-07-958-903A-17
; Sequence 17, Application US/07958903A
; Patent No. 5652214
;  GENERAL INFORMATION:
;    APPLICANT:  Lewis, Michael E.
;    APPLICANT:  Kauer, James C.
;    APPLICANT:  Smith, Kevin R.
;    APPLICANT:  Callison, Kathleen V.
;    APPLICANT:  Baldino, Frank
;    APPLICANT:  Neff, Nicola
;    APPLICANT:  Iqbal, Mohamed
;    TITLE OF INVENTION:  TREATING DISORDERS BY APPLICATION
;    TITLE OF INVENTION:  OF INSULIN-LIKE GROWTH FACTORS AND
;    TITLE OF INVENTION:  ANALOGS
;    NUMBER OF SEQUENCES:  56
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Fish & Richardson
;      STREET:  225 Franklin Street
;      CITY:  Boston
;      STATE:  Massachusetts
;      COUNTRY:  U.S.A.
;      ZIP:  02110-2804
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  3.5" Diskette, 1.44 Mb
;      COMPUTER:  IBM PS/2 Model 50Z or 55SX
;      OPERATING SYSTEM:  MS-DOS (Version 5.0)
;      SOFTWARE:  WordPerfect (Version 5.1)
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/07/958,903A
;      FILING DATE:  October 7, 1992
;      CLASSIFICATION:  514
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  07/361,595
;      FILING DATE:  June 5, 1989
;      APPLICATION NUMBER:  07/534,139
;      FILING DATE:  June 5, 1990
;      APPLICATION NUMBER:  07/869,913
;      FILING DATE:  April 15, 1992
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Clark, Paul T.
;      REGISTRATION NUMBER:  30,162
;      REFERENCE/DOCKET NUMBER:  02655/003004
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (617) 542-5070
;      TELEFAX:  (617) 542-8906
;      TELEX:  200154
;  INFORMATION FOR SEQ ID NO:  17:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  70
;      TYPE:  amino acid
;      STRANDEDNESS:
;      TOPOLOGY:  linear
US-07-958-903A-17

  Query Match             100.0%;  Score 385;  DB 1;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 3.3e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         61 CAPLKPAKSA 70


RESULT 4
US-08-462-018-17
; Sequence 17, Application US/08462018
; Patent No. 5703045
;  GENERAL INFORMATION:
;    APPLICANT:  Lewis, Michael E.
;    APPLICANT:  Kauer, James C.
;    APPLICANT:  Smith, Kevin R.
;    APPLICANT:  Callison, Kathleen V.
;    APPLICANT:  Baldino, Frank
;    APPLICANT:  Neff, Nicola
;    APPLICANT:  Iqbal, Mohamed
```

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;    TITLE OF INVENTION:  TREATING DISORDERS BY APPLICATION
;    TITLE OF INVENTION:  OF INSULIN-LIKE GROWTH FACTORS AND
;    TITLE OF INVENTION:  ANALOGS
;    NUMBER OF SEQUENCES:  56
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Fish & Richardson P.C.
;      STREET:  225 Franklin Street
;      CITY:  Boston
;      STATE:  Massachusetts
;      COUNTRY:  U.S.A.
;      ZIP:  02110-2804
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  3.5" Diskette, 1.44 Mb
;      COMPUTER:  IBM PS/2 Model 50Z or 55SX
;      OPERATING SYSTEM:  MS-DOS (Version 5.0)
;      SOFTWARE:  WordPerfect (Version 5.1)
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/462,018
;      FILING DATE:
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  07/958,903
;      FILING DATE:  October 7, 1992
;      APPLICATION NUMBER:  07/361,595
;      FILING DATE:  June 5, 1989
;      APPLICATION NUMBER:  07/534,139
;      FILING DATE:  June 5, 1990
;      APPLICATION NUMBER:  07/869,913
;      FILING DATE:  April 15, 1992
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Clark, Paul T.
;      REGISTRATION NUMBER:  30,162
;      REFERENCE/DOCKET NUMBER:  02655/003005
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (617) 542-5070
;      TELEFAX:  (617) 542-8906
;      TELEX:  200154
;  INFORMATION FOR SEQ ID NO:  17:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  70
;      TYPE:  amino acid
;      STRANDEDNESS:
;      TOPOLOGY:  linear
US-08-462-018-17

  Query Match             100.0%;  Score 385;  DB 1;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 3.3e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
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Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         61 CAPLKPAKSA 70


RESULT 5
US-08-823-245-17
; Sequence 17, Application US/08823245
; Patent No. 5776897
;  GENERAL INFORMATION:
;    APPLICANT:  Lewis, Michael
;    APPLICANT:  Kauer, James C.
;    APPLICANT:  Smith, Kevin R.
;    APPLICANT:  Callison, Kathleen V.
;    APPLICANT:  Baldino, Frank
;    APPLICANT:  Neff, Nicola
;    APPLICANT:  Iqbal, Mohamed
;    TITLE OF INVENTION:  TREATING DISORDERS BY
;    TITLE OF INVENTION:  APPLICATION
;    TITLE OF INVENTION:  OF INSULIN-LIKE GROWTH
;    TITLE OF INVENTION:  FACTORS AND
;    TITLE OF INVENTION:  ANALOGS
;    NUMBER OF SEQUENCES:  56
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Fish & Richardson
;      STREET:  225 Franklin Street
;      CITY:  Boston
;      STATE:  Massachusetts
;      COUNTRY:  U.S.A.
;      ZIP:  02110-2804
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  3.5" Diskette, 1.44 Mb
;      COMPUTER:  IBM PS/2 Model 50Z or
;      COMPUTER:  55SX
;      OPERATING SYSTEM:  MS-DOS (Version 5.0)
;      SOFTWARE:  WordPerfect (Version
;      SOFTWARE:  5.1)
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/823,245
;      FILING DATE:  March 24, 1997
;      CLASSIFICATION:  514
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  07/361,595
;      FILING DATE:  June 6, 1989
;      APPLICATION NUMBER:  07/534,139
;      FILING DATE:  June 5, 1990
;      APPLICATION NUMBER:  07/869,913
;      FILING DATE:  April 15, 1992
;      APPLICATION NUMBER:  07/958,903
;      FILING DATE:  October 7, 1992
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Creeson, Gary L.
;      REGISTRATION NUMBER:  34,310
;      REFERENCE/DOCKET NUMBER:  02655/003008
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (617) 542-5070
;      TELEFAX:  (617) 542-8906
;      TELEX:  200154
;  INFORMATION FOR SEQ ID NO:  17:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  70
;      TYPE:  amino acid
;      STRANDEDNESS:  N/A
;      TOPOLOGY:  N/A
US-08-823-245-17

  Query Match             100.0%;  Score 385;  DB 1;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 3.3e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
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Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
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Db         61 CAPLKPAKSA 70


RESULT 6
US-08-482-271-1
; Sequence 1, Application US/08482271
; Patent No. 5789547
;  GENERAL INFORMATION:
;    APPLICANT:  Sommer, Andreas
;    APPLICANT:  Ogawa, Yasushi
;    APPLICANT:  Tao, Peggy
;    TITLE OF INVENTION:  METHOD OF PRODUCING IGF-1 AND IGFBP-3
;    TITLE OF INVENTION:  WITH CORRECT FOLDING AND DISULFIDE BONDING
;    NUMBER OF SEQUENCES:  8
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  MORRISON & FOERSTER
;      STREET:  755 Page Mill Road
```

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;      CITY:  Palo Alto
;      STATE:  CA
;      COUNTRY:  USA
;      ZIP:  94304-1018
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/482,271
;      FILING DATE:  07-JUN-1995
;      CLASSIFICATION:  530
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Park, Freddie K.
;      REGISTRATION NUMBER:  35,636
;      REFERENCE/DOCKET NUMBER:  22095-20284.00
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (415) 813-5600
;      TELEFAX:  (415) 494-0792
;      TELEX:  706141MRSN FOERS SFO
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  70 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
US-08-482-271-1

  Query Match             100.0%;  Score 385;  DB 1;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 3.3e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         61 CAPLKPAKSA 70


RESULT 7
US-09-080-120A-1
; Sequence 1, Application US/09080120A
; Patent No. 6017885
;  GENERAL INFORMATION:
;    APPLICANT:  BAGI, CEDO M.
;    APPLICANT:  BROMMAGE, ROBERT
;    APPLICANT:  ROSEN, DAVID M.
;    APPLICANT:  ADAMS, STEVEN W.
;    TITLE OF INVENTION:  IGF/IGFBP COMPLEX FOR PROMOTING BONE
;    TITLE OF INVENTION:  FORMATION AND FOR REGULATING BONE REMODELING
;    NUMBER OF SEQUENCES:  7
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  MORRISON & FOERSTER
;      STREET:  755 Page Mill Road
;      CITY:  Palo Alto
;      STATE:  California
;      COUNTRY:  USA
;      ZIP:  94304-1018
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/09/080,120A
;      FILING DATE:  14-MAY-1998
;      CLASSIFICATION:  514
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/806,918
;      FILING DATE:  26-FEB-1997
;      CLASSIFICATION:  514
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/450,258
;      FILING DATE:  25-MAY-1995
;      CLASSIFICATION:  514
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/278,456
;      FILING DATE:  20-JUL-1994
;      CLASSIFICATION:  514
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Buffinger, Nicholas
;      REGISTRATION NUMBER:  39,124
;      REFERENCE/DOCKET NUMBER:  220952027203
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (650) 813-5600
;      TELEFAX:  (650) 494-0792
;      TELEX:  706141
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  70 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
US-09-080-120A-1

  Query Match             100.0%;  Score 385;  DB 3;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 3.3e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
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Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         61 CAPLKPAKSA 70


RESULT 8
US-08-432-517-1
; Sequence 1, Application US/08432517
; Patent No. 6083912
;  GENERAL INFORMATION:
;    APPLICANT:  KHOURI, ROGER K.
;    TITLE OF INVENTION:  METHOD FOR SOFT TISSUE AUGMENTATION
;    NUMBER OF SEQUENCES:  2
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  ROGERS, HOWELL & HAFERKAMP, L.C.
;      STREET:  7733 FORSYTH BOULEVARD, SUITE 1400
;      CITY:  ST. LOUIS
;      STATE:  MISSOURI
;      COUNTRY:  USA
;      ZIP:  63105-1817
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/432,517
;      FILING DATE:  01-MAY-1995
;      CLASSIFICATION:  514
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  HOLLAND, DONALD R.
;      REGISTRATION NUMBER:  35,197
;      REFERENCE/DOCKET NUMBER:  952584
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (314) 727-5188
;      TELEFAX:  (314) 727-6092
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  70 amino acids
;      TYPE:  amino acid
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;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
;    HYPOTHETICAL:  NO
;    FEATURE:
;      NAME/KEY:  Disulfide-bond
;      LOCATION:  6..48
;      OTHER INFORMATION:  /note= "Disulfide bond between two
;      OTHER INFORMATION:  cysteines."
;    FEATURE:
;      NAME/KEY:  Disulfide-bond
;      LOCATION:  18..61
;      OTHER INFORMATION:  /note= "Disulfide bond between two
;      OTHER INFORMATION:  cysteines."
;    FEATURE:
;      NAME/KEY:  Disulfide-bond
;      LOCATION:  47..52
;      OTHER INFORMATION:  /note= "Disulfide bond between two
;      OTHER INFORMATION:  cysteines."
US-08-432-517-1

  Query Match             100.0%;  Score 385;  DB 3;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 3.3e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         61 CAPLKPAKSA 70


RESULT 9
US-07-963-329A-1
; Sequence 1, Application US/07963329A
; Patent No. 6310040
;  GENERAL INFORMATION:
;    APPLICANT:  Bozyczko-Coyne, Donna
;    APPLICANT:  Neff, Nicola
;    APPLICANT:  Lewis, Michael E.
;    APPLICANT:  Iqbal, Mohamed
;    TITLE OF INVENTION:  TREATING RETINAL NEURONAL DISORDERS
;    TITLE OF INVENTION:  BY THE APPLICATION OF INSULIN-LIKE
;    TITLE OF INVENTION:  GROWTH FACTORS AND ANALOGS
;    NUMBER OF SEQUENCES:  79
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Fish & Richardson
;      STREET:  225 Franklin Street
;      CITY:  Boston
;      STATE:  Massachusetts
;      COUNTRY:  U.S.A.
;      ZIP:  02110-2804
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  3.5" Diskette, 1.44 Mb
;      COMPUTER:  IBM PS/2 Model 50Z or 55SX
;      OPERATING SYSTEM:  MS-DOS (Version 5.0)
;      SOFTWARE:  WordPerfect (Version 5.1)
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/07/963,329A
;      FILING DATE:  19921015
;      CLASSIFICATION:  514
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  07/790,690
;      FILING DATE:  No. 6310040ember 8, 1991
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Clark, Paul T.
;      REGISTRATION NUMBER:  30,162
;      REFERENCE/DOCKET NUMBER:  02655/012002
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (617) 542-5070
;      TELEFAX:  (617) 542-8906
;      TELEX:  200154
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  70
;      TYPE:  amino acid
;      STRANDEDNESS:
;      TOPOLOGY:  linear
US-07-963-329A-1

  Query Match             100.0%;  Score 385;  DB 4;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 3.3e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         61 CAPLKPAKSA 70


RESULT 10
US-09-477-924-1
; Sequence 1, Application US/09477924
; Patent No. 6403764
; GENERAL INFORMATION:
;  APPLICANT: Dubaquie, Yves
;  APPLICANT: Lowman, Henry
;  TITLE OF INVENTION: PROTEIN VARIANTS
;  FILE REFERENCE: P1712R1-1
;  CURRENT APPLICATION NUMBER: US/09/477,924
;  CURRENT FILING DATE: 2000-01-05
;  NUMBER OF SEQ ID NOS: 6
; SEQ ID NO 1
;   LENGTH: 70
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-477-924-1

  Query Match             100.0%;  Score 385;  DB 4;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 3.3e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         61 CAPLKPAKSA 70


RESULT 11
US-09-723-981-1
; Sequence 1, Application US/09723981
; Patent No. 6506874
; GENERAL INFORMATION:
;  APPLICANT: Dubaquie, Yves
;  APPLICANT:  Lowman, Henry
;  TITLE OF INVENTION: PROTEIN VARIANTS
;  FILE REFERENCE: P1712R1
;  CURRENT APPLICATION NUMBER: US/09/723,981
;  CURRENT FILING DATE:  2000-11-28
;  PRIOR APPLICATION NUMBER: 09/477,923
;  PRIOR FILING DATE: 2000-01-05
;  NUMBER OF SEQ ID NOS: 6
; SEQ ID NO 1
;   LENGTH: 70
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-723-981-1

  Query Match             100.0%;  Score 385;  DB 4;  Length 70;
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  Best Local Similarity   100.0%;  Pred. No. 3.3e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         61 CAPLKPAKSA 70


RESULT 12
US-09-723-896-1
; Sequence 1, Application US/09723896
; Patent No. 6509443
; GENERAL INFORMATION:
;  APPLICANT: Dubaquie, Yves
;  APPLICANT:  Lowman, Henry
;  TITLE OF INVENTION: PROTEIN VARIANTS
;  FILE REFERENCE: P1712R1
;  CURRENT APPLICATION NUMBER: US/09/723,896
;  CURRENT FILING DATE:  2000-11-28
;  PRIOR APPLICATION NUMBER: US/09/477,923
;  PRIOR FILING DATE: 2000-01-05
;  NUMBER OF SEQ ID NOS: 6
; SEQ ID NO 1
;   LENGTH: 70
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-723-896-1

  Query Match             100.0%;  Score 385;  DB 4;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 3.3e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         61 CAPLKPAKSA 70


RESULT 13
PCT-US92-09443A-1
; Sequence 1, Application PC/TUS9209443A
;  GENERAL INFORMATION:
;    APPLICANT:  Bozyczko-Coyne, Donna
;    APPLICANT:  Neff, Nicola
;    APPLICANT:  Lewis, Michael E.
;    APPLICANT:  Iqbal, Mohamed
;    TITLE OF INVENTION:  TREATING RETINAL NEURONAL
;    TITLE OF INVENTION:  DISORDERS BY THE APPLICATION OF
;    TITLE OF INVENTION:  INSULIN-LIKE GROWTH FACTORS AND
;    TITLE OF INVENTION:  ANALOGS
;    NUMBER OF SEQUENCES:  79
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Fish & Richardson
;      STREET:  225 Franklin Street
;      CITY:  Boston
;      STATE:  Massachusetts
;      COUNTRY:  U.S.A.
;      ZIP:  02110-2804
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  3.5" Diskette, 1.44 Mb
;      COMPUTER:  IBM PS/2 Model 50Z or 55SX
;      OPERATING SYSTEM:  MS-DOS (Version 5.0)
;      SOFTWARE:  WordPerfect (Version 5.1)
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  PCT/US92/09443A
;      FILING DATE:  19921103
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  07/790,690
;      FILING DATE:  November 8, 1991
;      APPLICATION NUMBER:  07/963,329
;      FILING DATE:  October 15, 1992
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Clark, Paul T.
;      REGISTRATION NUMBER:  30,162
;      REFERENCE/DOCKET NUMBER:  02655/012WO2
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (617) 542-5070
;      TELEFAX:  (617) 542-8906
;      TELEX:  200154
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  70
;      TYPE:  AMINO ACID
;      STRANDEDNESS:  N/A
;      TOPOLOGY:  N/A
PCT-US92-09443A-1

  Query Match             100.0%;  Score 385;  DB 5;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 3.3e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         61 CAPLKPAKSA 70


RESULT 14
PCT-US93-11458-1
; Sequence 1, Application PC/TUS9311458
;  GENERAL INFORMATION:
;    APPLICANT:
;    TITLE OF INVENTION:  MODIFIED INSULIN-LIKE GROWTH FACTOR
;    NUMBER OF SEQUENCES:  20
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25 (EPO)
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  PCT/US93/11458
;      FILING DATE:  24-NOV-1993
;      CLASSIFICATION:
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  70 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
PCT-US93-11458-1

  Query Match             100.0%;  Score 385;  DB 5;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 3.3e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         61 CAPLKPAKSA 70
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RESULT 15
PCT-US95-08925-1
; Sequence 1, Application PC/TUS9508925
;  GENERAL INFORMATION:
;    APPLICANT:  CELTRIX PHARMACEUTICALS, INC.
;    TITLE OF INVENTION:  IGF/IGFBP COMPLEX FOR PROMOTING BONE
;    TITLE OF INVENTION:  FORMATION AND FOR REGULATING BONE REMODELING
;    NUMBER OF SEQUENCES:  7
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  MORRISON & FOERSTER
;      STREET:  755 Page Mill Road
;      CITY:  Palo Alto
;      STATE:  California
;      COUNTRY:  USA
;      ZIP:  94304-1018
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  PCT/US95/08925
;      FILING DATE:  NEW
;      CLASSIFICATION:
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  PARK, FREDDIE K.
;      REGISTRATION NUMBER:  35,636
;      REFERENCE/DOCKET NUMBER:  220952027240
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (415) 813-5600
;      TELEFAX:  (415) 494-0792
;      TELEX:  706141
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  70 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
PCT-US95-08925-1

  Query Match             100.0%;  Score 385;  DB 5;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 3.3e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         61 CAPLKPAKSA 70


RESULT 16
US-07-989-845-28
; Sequence 28, Application US/07989845
; Patent No. 5304472
;  GENERAL INFORMATION:
;    APPLICANT:  Bass, Steven
;    APPLICANT:  Swartz, James
;    TITLE OF INVENTION:  METHOD OF CONTROLLING POLYPEPTIDE
;    TITLE OF INVENTION:  PRODUCTION IN BACTERIAL CELLS
;    NUMBER OF SEQUENCES:  31
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Genentech, Inc.
;      STREET:  460 Point San Bruno Blvd
;      CITY:  South San Francisco
;      STATE:  California
;      COUNTRY:  USA
;      ZIP:  94080-4990
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  5.25 inch, 360 Kb floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  patin (Genentech)
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/07/989,845
;      FILING DATE:  19921120
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:
;      FILING DATE:
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Hasak, Janet E.
;      REGISTRATION NUMBER:  28,616
;      REFERENCE/DOCKET NUMBER:  752
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  415/225-1896
;      TELEFAX:  415/952-9881
;      TELEX:  910/371-7168
;  INFORMATION FOR SEQ ID NO:  28:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  94 amino acids
;      TYPE:  AMINO ACID
;      TOPOLOGY:  linear
US-07-989-845-28

  Query Match             100.0%;  Score 385;  DB 1;  Length 94;
  Best Local Similarity   100.0%;  Pred. No. 4.5e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         25 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 84

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         85 CAPLKPAKSA 94


RESULT 17
US-07-989-844-12
; Sequence 12, Application US/07989844
; Patent No. 5342763
;  GENERAL INFORMATION:
;    APPLICANT:  Swartz, James
;    TITLE OF INVENTION:  Method for Producing Polypeptide via
;    TITLE OF INVENTION:  Bacterial Fermentation
;    NUMBER OF SEQUENCES:  21
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Genentech, Inc.
;      STREET:  460 Point San Bruno Blvd
;      CITY:  South San Francisco
;      STATE:  California
;      COUNTRY:  USA
;      ZIP:  94080-4990
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  5.25 inch, 360 Kb floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  patin (Genentech)
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/07/989,844
;      FILING DATE:  19921123
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:
;      FILING DATE:
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Hasak, Janet E.
;      REGISTRATION NUMBER:  28,616
;      REFERENCE/DOCKET NUMBER:  811
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  415/225-1896
;      TELEFAX:  415/952-9881
;      TELEX:  910/371-7168
```

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;  INFORMATION FOR SEQ ID NO:  12:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  94 amino acids
;      TYPE:  AMINO ACID
;      TOPOLOGY:  linear
US-07-989-844-12

  Query Match             100.0%;  Score 385;  DB 1;  Length 94;
  Best Local Similarity   100.0%;  Pred. No. 4.5e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         25 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 84

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         85 CAPLKPAKSA 94


RESULT 18
US-08-161-044-12
; Sequence 12, Application US/08161044
; Patent No. 5410026
;  GENERAL INFORMATION:
;    APPLICANT:  Chang, Judy Yi-Huei
;    APPLICANT:  McFarland, Nancy C.
;    APPLICANT:  Swartz, James R.
;    TITLE OF INVENTION:  Method for Refolding Insoluble, Misfolded Insulin-Like Growth
;    NUMBER OF SEQUENCES:  12
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Genentech, Inc.
;      STREET:  460 Point San Bruno Blvd
;      CITY:  South San Francisco
;      STATE:  California
;      COUNTRY:  USA
;      ZIP:  94080
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  5.25 inch, 360 Kb floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  patin (Genentech)
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/161,044
;      FILING DATE:  02-DEC-1993
;      CLASSIFICATION:  530
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  07/808451
;      FILING DATE:  06-DEC-1991
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Hasak, Janet E.
;      REGISTRATION NUMBER:  28,616
;      REFERENCE/DOCKET NUMBER:  729C1
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  415/225-1896
;      TELEFAX:  415/952-9881
;      TELEX:  910/371-7168
;  INFORMATION FOR SEQ ID NO:  12:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  94 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
US-08-161-044-12

  Query Match             100.0%;  Score 385;  DB 1;  Length 94;
  Best Local Similarity   100.0%;  Pred. No. 4.5e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         25 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 84

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         85 CAPLKPAKSA 94


RESULT 19
US-08-240-121-12
; Sequence 12, Application US/08240121
; Patent No. 5487980
;  GENERAL INFORMATION:
;    APPLICANT:  Swartz, James
;    TITLE OF INVENTION:  Method for Producing Polypeptide via Bacterial Fermentation
;    NUMBER OF SEQUENCES:  21
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Genentech, Inc.
;      STREET:  460 Point San Bruno Blvd
;      CITY:  South San Francisco
;      STATE:  California
;      COUNTRY:  USA
;      ZIP:  94080
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  5.25 inch, 360 Kb floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  patin (Genentech)
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/240,121
;      FILING DATE:  09-May-1994
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  07/989844
;      FILING DATE:  23-No. 5487980-1992
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Hasak, Janet E.
;      REGISTRATION NUMBER:  28,616
;      REFERENCE/DOCKET NUMBER:  811D1
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  415/225-1896
;      TELEFAX:  415/952-9881
;      TELEX:  910/371-7168
;  INFORMATION FOR SEQ ID NO:  12:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  94 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
US-08-240-121-12

  Query Match             100.0%;  Score 385;  DB 1;  Length 94;
  Best Local Similarity   100.0%;  Pred. No. 4.5e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         25 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 84

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         85 CAPLKPAKSA 94


RESULT 20
US-08-451-241-12
; Sequence 12, Application US/08451241
; Patent No. 5633165
;  GENERAL INFORMATION:
;    APPLICANT:  Swartz, James
;    TITLE OF INVENTION:  Method for Producing Polypeptide via
;    TITLE OF INVENTION:  Bacterial Fermentation
;    NUMBER OF SEQUENCES:  21
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Genentech, Inc.
;      STREET:  460 Point San Bruno Blvd
;      CITY:  South San Francisco
;      STATE:  California
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;       COUNTRY:  USA
;       ZIP:  94080
;     COMPUTER READABLE FORM:
;       MEDIUM TYPE:  5.25 inch, 360 Kb floppy disk
;       COMPUTER:  IBM PC compatible
;       OPERATING SYSTEM:  PC-DOS/MS-DOS
;       SOFTWARE:  patin (Genentech)
;     CURRENT APPLICATION DATA:
;       APPLICATION NUMBER:  US/08/451,241
;       FILING DATE:  25-MAY-1995
;       CLASSIFICATION:  435
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  08/240121
;       FILING DATE:  09-MAY-1994
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  07/989844
;       FILING DATE:  23-NOV-1992
;     ATTORNEY/AGENT INFORMATION:
;       NAME:  Hasak, Janet E.
;       REGISTRATION NUMBER:  28,616
;       REFERENCE/DOCKET NUMBER:  P0811D2
;     TELECOMMUNICATION INFORMATION:
;       TELEPHONE:  415/225-1896
;       TELEFAX:  415/952-9881
;       TELEX:  910/371-7168
;   INFORMATION FOR SEQ ID NO:  12:
;     SEQUENCE CHARACTERISTICS:
;       LENGTH:  94 amino acids
;       TYPE:  amino acid
;       TOPOLOGY:  linear
US-08-451-241-12

  Query Match             100.0%;  Score 385;  DB 1;  Length 94;
  Best Local Similarity   100.0%;  Pred. No. 4.5e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         25 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 84

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         85 CAPLKPAKSA 94


RESULT 21
PCT-US93-11297-12
; Sequence 12, Application PC/TUS9311297
;  GENERAL INFORMATION:
;    APPLICANT:  Genentech, Inc. et al.
;    TITLE OF INVENTION:  Method for Producing Polypeptide via Bacterial Fermentation
;    NUMBER OF SEQUENCES:  21
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Genentech, Inc.
;      STREET:  460 Point San Bruno Blvd
;      CITY:  South San Francisco
;      STATE:  California
;      COUNTRY:  USA
;      ZIP:  94080
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  5.25 inch, 360 Kb floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  patin (Genentech)
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  PCT/US93/11297
;      FILING DATE:
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  07/989844
;      FILING DATE:  23-NOV-1992
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Hasak, Janet E.
;      REGISTRATION NUMBER:  28,616
;      REFERENCE/DOCKET NUMBER:  811P1
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  415/225-1896
;      TELEFAX:  415/952-9881
;      TELEX:  910/371-7168
;  INFORMATION FOR SEQ ID NO:  12:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  94 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
PCT-US93-11297-12

  Query Match             100.0%;  Score 385;  DB 5;  Length 94;
  Best Local Similarity   100.0%;  Pred. No. 4.5e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         25 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 84

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         85 CAPLKPAKSA 94


RESULT 22
PCT-US93-11298-28
; Sequence 28, Application PC/TUS9311298
;  GENERAL INFORMATION:
;    APPLICANT:  Genentech, Inc.
;    TITLE OF INVENTION:  METHOD OF CONTROLLING POLYPEPTIDE PRODUCTION IN
;    TITLE OF INVENTION:  BACTERIA
;    NUMBER OF SEQUENCES:  31
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Genentech, Inc.
;      STREET:  460 Point San Bruno Blvd
;      CITY:  South San Francisco
;      STATE:  California
;      COUNTRY:  USA
;      ZIP:  94080
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  5.25 inch, 360 Kb floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  patin (Genentech)
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  PCT/US93/11298
;      FILING DATE:
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:
;      FILING DATE:
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Hasak, Janet E.
;      REGISTRATION NUMBER:  28,616
;      REFERENCE/DOCKET NUMBER:  752
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  415/225-1896
;      TELEFAX:  415/952-9881
;      TELEX:  910/371-7168
;  INFORMATION FOR SEQ ID NO:  28:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  94 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
PCT-US93-11298-28

  Query Match             100.0%;  Score 385;  DB 5;  Length 94;
  Best Local Similarity   100.0%;  Pred. No. 4.5e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
```

```
                    ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          25 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 84

Qy          61 CAPLKPAKSA 70
               ||||||||||
Db          85 CAPLKPAKSA 94


RESULT 23
US-09-029-267-14
; Sequence 14, Application US/09029267
; Patent No. 6107057
;  GENERAL INFORMATION:
;    APPLICANT:  Crawford, Kenneth
;    APPLICANT:  Zaror, Isabel
;    APPLICANT:  Innis, Michael
;    TITLE OF INVENTION:  Pichia Secretory Leader for Protein
;    TITLE OF INVENTION:  Expression
;    NUMBER OF SEQUENCES:  40
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Chiron Corporation
;      STREET:  4560 Horton Street
;      CITY:  Emeryville
;      STATE:  California
;      COUNTRY:  United States
;      ZIP:  94608
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/09/029,267
;      FILING DATE:
;      CLASSIFICATION:
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Chung, Ling-Fong
;      REGISTRATION NUMBER:  36,482
;      REFERENCE/DOCKET NUMBER:  1165.100
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (510) 601-2704
;      TELEFAX:  (510) 655-3542
;  INFORMATION FOR SEQ ID NO:  14:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  118 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-09-029-267-14

  Query Match             100.0%;  Score 385;  DB 3;  Length 118;
  Best Local Similarity   100.0%;  Pred. No. 5.8e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy           1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy          61 CAPLKPAKSA 70
               ||||||||||
Db         109 CAPLKPAKSA 118


RESULT 24
US-07-953-230A-10
; Sequence 10, Application US/07953230A
; Patent No. 5476779
;  GENERAL INFORMATION:
;    APPLICANT:  CHEN, Thomas T
;    APPLICANT:  SHAMBLOTT, Michael J
;    TITLE OF INVENTION:  INSULIN-LIKE GROWTH FACTORS ISOLATED
;    TITLE OF INVENTION:  FROM RAINBOW TROUT
;    NUMBER OF SEQUENCES:  12
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Burns, Doane, Swecker & Mathis
;      STREET:  George Mason Bldg., Washington & Prince Sts.
;      CITY:  Alexandria
;      STATE:  Virginia
;      COUNTRY:  United States
;      ZIP:  22313-1404
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/07/953,230A
;      FILING DATE:  30-SEP-1992
;      CLASSIFICATION:  435
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Crane-Feury, Sharon E
;      REGISTRATION NUMBER:  36,113
;      REFERENCE/DOCKET NUMBER:  028755-010
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (703) 836-6620
;      TELEFAX:  (703) 836-2021
;  INFORMATION FOR SEQ ID NO:  10:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  137 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
;    FEATURE:
;      NAME/KEY:  Peptide
;      LOCATION:  7
;      OTHER INFORMATION:  /note= "Gap of 2 after 7."
;    FEATURE:
;      NAME/KEY:  Peptide
;      LOCATION:  31
;      OTHER INFORMATION:  /note= "Gap of 1 after 31."
;    FEATURE:
;      NAME/KEY:  Peptide
;      LOCATION:  116
;      OTHER INFORMATION:  /note= "Gap of 27 after 116."
US-07-953-230A-10

  Query Match             100.0%;  Score 385;  DB 1;  Length 137;
  Best Local Similarity   100.0%;  Pred. No. 6.8e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy           1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          33 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 92

Qy          61 CAPLKPAKSA 70
               ||||||||||
Db          93 CAPLKPAKSA 102


RESULT 25
US-08-950-720A-9
; Sequence 9, Application US/08950720A
; Patent No. 6046028
;  GENERAL INFORMATION:
;    APPLICANT:  Conklin, Darrell C.
;    APPLICANT:  Lofton-Day, Catherine E.
;    APPLICANT:  Lok, Si
;    APPLICANT:  Jaspers, Stephen R.
;    TITLE OF INVENTION:  INSULIN HOMOLOG
;    NUMBER OF SEQUENCES:  17
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  ZymoGenetics, Inc.
;      STREET:  1201 Eastlake Avenue East
;      CITY:  Seattle
```

```
;       STATE:  WA
;       COUNTRY:  USA
;       ZIP:  98102
;     COMPUTER READABLE FORM:
;       MEDIUM TYPE:  Diskette
;       COMPUTER:  IBM Compatible
;       OPERATING SYSTEM:  DOS
;       SOFTWARE:  FastSEQ for Windows Version 2.0
;     CURRENT APPLICATION DATA:
;       APPLICATION NUMBER:  US/08/950,720A
;       FILING DATE:
;       CLASSIFICATION:  435
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:
;       FILING DATE:
;     ATTORNEY/AGENT INFORMATION:
;       NAME:  Sawislak, Deborah A
;       REGISTRATION NUMBER:  37,438
;       REFERENCE/DOCKET NUMBER:  96-09
;     TELECOMMUNICATION INFORMATION:
;       TELEPHONE:  206-442-6672
;       TELEFAX:  206-442-6678
;       TELEX:
;   INFORMATION FOR SEQ ID NO:  9:
;     SEQUENCE CHARACTERISTICS:
;       LENGTH:  152 amino acids
;       TYPE:  amino acid
;       STRANDEDNESS:  single
;       TOPOLOGY:  linear
;     MOLECULE TYPE:  No. 6046028e
US-08-950-720A-9

  Query Match             100.0%;  Score 385;  DB 3;  Length 152;
  Best Local Similarity   100.0%;  Pred. No. 7.7e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         23 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 82

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         83 CAPLKPAKSA 92


RESULT 26
US-08-219-878A-1
; Sequence 1, Application US/08219878A
; Patent No. 5473054
;  GENERAL INFORMATION:
;    APPLICANT:  Bradford A. Jameson and Renato Baserga
;    TITLE OF INVENTION:  IGF-1 Analogs
;    NUMBER OF SEQUENCES:  5
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Woodcock Washburn
;      ADDRESSEE:  Kurtz Mackiewicz & No. 5473054ris
;      STREET:  One Liberty Place - 46th Floor
;      CITY:  Philadelphia
;      STATE:  PA
;      COUNTRY:  USA
;      ZIP:  19103
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  DISKETTE, 3.5 INCH, 1.44 Mb STORAGE
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  WORDPERFECT 5.1
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/219,878A
;      FILING DATE:  30-MAR-1994
;      CLASSIFICATION:  514
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US/07/881,524
;      FILING DATE:  08-MAY-1992
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Mark DeLuca
;      REGISTRATION NUMBER:  33,229
;      REFERENCE/DOCKET NUMBER:  TJU-1240
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (215) 568-3100
;      TELEFAX:  (215) 568-3439
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  153
;      TYPE:  amino acid
;      TOPOLOGY:  linear
US-08-219-878A-1

  Query Match             100.0%;  Score 385;  DB 1;  Length 153;
  Best Local Similarity   100.0%;  Pred. No. 7.7e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db        109 CAPLKPAKSA 118


RESULT 27
PCT-US93-04329-1
; Sequence 1, Application PC/TUS9304329
;  GENERAL INFORMATION:
;    APPLICANT:  Bradford A. Jameson and Renato Baserga
;    TITLE OF INVENTION:  IGF-1 Analogs
;    NUMBER OF SEQUENCES:  7
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Woodcock Washburn
;      ADDRESSEE:  Kurtz Mackiewicz & Norris
;      STREET:  One Liberty Place - 46th Floor
;      CITY:  Philadelphia
;      STATE:  PA
;      COUNTRY:  USA
;      ZIP:  19103
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  DISKETTE, 3.5 INCH, 1.44 Mb STORAGE
;      COMPUTER:  IBM PS/2
;      OPERATING SYSTEM:  PC-DOS
;      SOFTWARE:  WORDPERFECT 5.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  PCT/US93/04329
;      FILING DATE:  19930507
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  07/881,524
;      FILING DATE:  08-MAY-92,
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Mark DeLuca
;      REGISTRATION NUMBER:  33,229
;      REFERENCE/DOCKET NUMBER:  TJU-0649
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (215) 568-3100
;      TELEFAX:  (215) 568-3439
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  153
;      TYPE:  AMINO ACID
;      TOPOLOGY:  linear
PCT-US93-04329-1

  Query Match             100.0%;  Score 385;  DB 5;  Length 153;
  Best Local Similarity   100.0%;  Pred. No. 7.7e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
```

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                    ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy          61 CAPLKPAKSA 70
               ||||||||||
Db         109 CAPLKPAKSA 118


RESULT 28
US-08-328-961-8
; Sequence 8, Application US/08328961
; Patent No. 5501975
;  GENERAL INFORMATION:
;    APPLICANT:  Chaudhuri, Bhabatosh
;    APPLICANT:  Stephan, Christine
;    APPLICANT:  Seeboth, Peter
;    APPLICANT:  Reizman, Howard
;    TITLE OF INVENTION:  No. 5501975el DNA Molecules and Hosts
;    NUMBER OF SEQUENCES:  15
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Ciba-Geigy Corporation
;      STREET:  7 Skyline Drive
;      CITY:  Hawthorne
;      STATE:  NY
;      COUNTRY:  USA
;      ZIP:  10532
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/328,961
;      FILING DATE:
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US/07/989,260
;      FILING DATE:  11-DEC-1992
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Spruill, W. Murray
;      REGISTRATION NUMBER:  32,943
;      REFERENCE/DOCKET NUMBER:  4-18885/A
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  919-541-8614
;      TELEFAX:  919-541-8689
;  INFORMATION FOR SEQ ID NO:  8:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  155 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-328-961-8

  Query Match             100.0%;  Score 385;  DB 1;  Length 155;
  Best Local Similarity   100.0%;  Pred. No. 7.8e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         86 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 145

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db        146 CAPLKPAKSA 155


RESULT 29
US-08-462-397-8
; Sequence 8, Application US/08462397
; Patent No. 5618690
;  GENERAL INFORMATION:
;    APPLICANT:  Chaudhuri, Bhabatosh
;    APPLICANT:  Stephan, Christine
;    APPLICANT:  Seeboth, Peter
;    APPLICANT:  Reizman, Howard
;    TITLE OF INVENTION:  No. 5618690el DNA Molecules and Hosts
;    NUMBER OF SEQUENCES:  15
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Ciba-Geigy Corporation
;      STREET:  7 Skyline Drive
;      CITY:  Hawthorne
;      STATE:  NY
;      COUNTRY:  USA
;      ZIP:  10532
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/462,397
;      FILING DATE:  05-JUN-1995
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US/07/989,260
;      FILING DATE:  11-DEC-1992
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Spruill, W. Murray
;      REGISTRATION NUMBER:  32,943
;      REFERENCE/DOCKET NUMBER:  4-18885/A
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  919-541-8614
;      TELEFAX:  919-541-8689
;  INFORMATION FOR SEQ ID NO:  8:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  155 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-462-397-8

  Query Match             100.0%;  Score 385;  DB 1;  Length 155;
  Best Local Similarity   100.0%;  Pred. No. 7.8e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         86 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 145

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db        146 CAPLKPAKSA 155


RESULT 30
US-08-989-251-39
; Sequence 39, Application US/08989251
; Patent No. 6017731
;  GENERAL INFORMATION:
;    APPLICANT:  Tekamp-Olson, Patricia
;    TITLE OF INVENTION:  METHOD FOR EXPRESSION OF HETEROLOGOUS
;    TITLE OF INVENTION:  PROTEINS IN YEAST
;    NUMBER OF SEQUENCES:  41
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Bell Seltzer IP Group of Alston & Bird, LLP
;      STREET:  3605 Glenwood Ave. Suite 310
;      CITY:  Raleigh
;      STATE:  NC
;      COUNTRY:  US
;      ZIP:  27622
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
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;      APPLICATION NUMBER:  US/08/989,251
;      FILING DATE:
;      CLASSIFICATION:
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Spruill, W. Murray
;      REGISTRATION NUMBER:  32,943
;      REFERENCE/DOCKET NUMBER:  5784-4
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  919 420 2202
;      TELEFAX:  919 881 3175
;  INFORMATION FOR SEQ ID NO:  39:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  155 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-989-251-39

  Query Match             100.0%;  Score 385;  DB 3;  Length 155;
  Best Local Similarity   100.0%;  Pred. No. 7.8e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         86 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 145

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db        146 CAPLKPAKSA 155


RESULT 31
US-09-340-250-39
; Sequence 39, Application US/09340250
; Patent No. 6083723
;  GENERAL INFORMATION:
;    APPLICANT:  Tekamp-Olson, Patricia
;    TITLE OF INVENTION:  METHOD FOR EXPRESSION OF HETEROLOGOUS
;    TITLE OF INVENTION:  PROTEINS IN YEAST
;    NUMBER OF SEQUENCES:  41
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Bell Seltzer IP Group of Alston & Bird, LLP
;      STREET:  3605 Glenwood Ave. Suite 310
;      CITY:  Raleigh
;      STATE:  NC
;      COUNTRY:  US
;      ZIP:  27622
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/09/340,250
;      FILING DATE:
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/989,251
;      FILING DATE:
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Spruill, W. Murray
;      REGISTRATION NUMBER:  32,943
;      REFERENCE/DOCKET NUMBER:  5784-4
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  919 420 2202
;      TELEFAX:  919 881 3175
;  INFORMATION FOR SEQ ID NO:  39:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  155 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-09-340-250-39

  Query Match             100.0%;  Score 385;  DB 3;  Length 155;
  Best Local Similarity   100.0%;  Pred. No. 7.8e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         86 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 145

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db        146 CAPLKPAKSA 155


RESULT 32
US-09-528-108-39
; Sequence 39, Application US/09528108
; Patent No. 6312923
;  GENERAL INFORMATION:
;    APPLICANT:  Tekamp-Olson, Patricia
;    TITLE OF INVENTION:  METHOD FOR EXPRESSION OF HETEROLOGOUS
;    TITLE OF INVENTION:  PROTEINS IN YEAST
;    NUMBER OF SEQUENCES:  41
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Bell Seltzer IP Group of Alston & Bird, LLP
;      STREET:  3605 Glenwood Ave. Suite 310
;      CITY:  Raleigh
;      STATE:  NC
;      COUNTRY:  US
;      ZIP:  27622
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/09/528,108
;      FILING DATE:
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/989,251
;      FILING DATE:
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Spruill, W. Murray
;      REGISTRATION NUMBER:  32,943
;      REFERENCE/DOCKET NUMBER:  5784-4
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  919 420 2202
;      TELEFAX:  919 881 3175
;  INFORMATION FOR SEQ ID NO:  39:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  155 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-09-528-108-39

  Query Match             100.0%;  Score 385;  DB 4;  Length 155;
  Best Local Similarity   100.0%;  Pred. No. 7.8e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         86 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 145

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db        146 CAPLKPAKSA 155


RESULT 33
US-09-142-583A-11
; Sequence 11, Application US/09142583A
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; Patent No. 6221842
;  GENERAL INFORMATION:
;       APPLICANT: GOLDSPINK, GEOFFREY
;       TITLE OF INVENTION: METHOD OF TREATING MUSCULAR DISORDERS
;       NUMBER OF SEQUENCES: 11
;       CORRESPONDENCE ADDRESS:
;            ADDRESSEE: NIXON & VANDERHYE P.C.
;            STREET: 1100 NORTH GLEBE ROAD
;            CITY: ARLINGTON
;            STATE: VA
;            COUNTRY: USA
;            ZIP: 22201
;       COMPUTER READABLE FORM:
;            MEDIUM TYPE: Floppy disk
;            COMPUTER: IBM PC compatible
;            OPERATING SYSTEM: PC-DOS/MS-DOS
;            SOFTWARE: PatentIn Release #1.0, Version #1.25
;       CURRENT APPLICATION DATA:
;            APPLICATION NUMBER: US/09/142,583A
;            FILING DATE: 29-Oct-1998
;            CLASSIFICATION: <Unknown>
;       PRIOR APPLICATION DATA:
;            APPLICATION NUMBER: WO PCT/GB97/00658
;            FILING DATE: 11-MAR-1997
;            APPLICATION NUMBER: GB 9605124.8
;            FILING DATE: 11-MAR-1996
;       ATTORNEY/AGENT INFORMATION:
;            NAME: SADOFF, B. J.
;            REGISTRATION NUMBER: 36663
;            REFERENCE/DOCKET NUMBER: 117-263
;       TELECOMMUNICATION INFORMATION:
;            TELEPHONE: 7038164000
;            TELEFAX: 7038164100
;   INFORMATION FOR SEQ ID NO: 11:
;       SEQUENCE CHARACTERISTICS:
;            LENGTH: 156 amino acids
;            TYPE: amino acid
;            TOPOLOGY: linear
;       MOLECULE TYPE: protein
;       SEQUENCE DESCRIPTION: SEQ ID NO: 11:
US-09-142-583A-11

  Query Match             100.0%;  Score 385;  DB 3;  Length 156;
  Best Local Similarity   100.0%;  Pred. No. 7.9e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         52 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 111

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db        112 CAPLKPAKSA 121


RESULT 34
US-08-989-251-41
; Sequence 41, Application US/08989251
; Patent No. 6017731
;  GENERAL INFORMATION:
;    APPLICANT:  Tekamp-Olson, Patricia
;    TITLE OF INVENTION:  METHOD FOR EXPRESSION OF HETEROLOGOUS
;    TITLE OF INVENTION:  PROTEINS IN YEAST
;    NUMBER OF SEQUENCES:  41
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Bell Seltzer IP Group of Alston & Bird, LLP
;      STREET:  3605 Glenwood Ave. Suite 310
;      CITY:  Raleigh
;      STATE:  NC
;      COUNTRY:  US
;      ZIP:  27622
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/989,251
;      FILING DATE:
;      CLASSIFICATION:
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Spruill, W. Murray
;      REGISTRATION NUMBER:  32,943
;      REFERENCE/DOCKET NUMBER:  5784-4
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  919 420 2202
;      TELEFAX:  919 881 3175
;  INFORMATION FOR SEQ ID NO:  41:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  191 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-989-251-41

  Query Match             100.0%;  Score 385;  DB 3;  Length 191;
  Best Local Similarity   100.0%;  Pred. No. 9.9e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         86 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 145

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db        146 CAPLKPAKSA 155


RESULT 35
US-09-340-250-41
; Sequence 41, Application US/09340250
; Patent No. 6083723
;  GENERAL INFORMATION:
;    APPLICANT:  Tekamp-Olson, Patricia
;    TITLE OF INVENTION:  METHOD FOR EXPRESSION OF HETEROLOGOUS
;    TITLE OF INVENTION:  PROTEINS IN YEAST
;    NUMBER OF SEQUENCES:  41
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Bell Seltzer IP Group of Alston & Bird, LLP
;      STREET:  3605 Glenwood Ave. Suite 310
;      CITY:  Raleigh
;      STATE:  NC
;      COUNTRY:  US
;      ZIP:  27622
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/09/340,250
;      FILING DATE:
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/989,251
;      FILING DATE:
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Spruill, W. Murray
;      REGISTRATION NUMBER:  32,943
;      REFERENCE/DOCKET NUMBER:  5784-4
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  919 420 2202
;      TELEFAX:  919 881 3175
;  INFORMATION FOR SEQ ID NO:  41:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  191 amino acids
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;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-09-340-250-41

  Query Match            100.0%;  Score 385;  DB 3;  Length 191;
  Best Local Similarity   100.0%;  Pred. No. 9.9e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         86 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 145

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db        146 CAPLKPAKSA 155


RESULT 36
US-09-528-108-41
; Sequence 41, Application US/09528108
; Patent No. 6312923
;  GENERAL INFORMATION:
;    APPLICANT:  Tekamp-Olson, Patricia
;    TITLE OF INVENTION:  METHOD FOR EXPRESSION OF HETEROLOGOUS
;    TITLE OF INVENTION:  PROTEINS IN YEAST
;    NUMBER OF SEQUENCES:  41
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Bell Seltzer IP Group of Alston & Bird, LLP
;      STREET:  3605 Glenwood Ave. Suite 310
;      CITY:  Raleigh
;      STATE:  NC
;      COUNTRY:  US
;      ZIP:  27622
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/09/528,108
;      FILING DATE:
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/989,251
;      FILING DATE:
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Spruill, W. Murray
;      REGISTRATION NUMBER:  32,943
;      REFERENCE/DOCKET NUMBER:  5784-4
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  919 420 2202
;      TELEFAX:  919 881 3175
;  INFORMATION FOR SEQ ID NO:  41:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  191 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-09-528-108-41

  Query Match            100.0%;  Score 385;  DB 4;  Length 191;
  Best Local Similarity   100.0%;  Pred. No. 9.9e-40;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         86 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 145

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db        146 CAPLKPAKSA 155


RESULT 37
US-09-255-829-14
; Sequence 14, Application US/09255829
; Patent No. 6461617
;  GENERAL INFORMATION:
;    APPLICANT:  Shone, Clifford Charles
;    APPLICANT:  Quinn, Conrad Padraig
;    APPLICANT:  Foster, Keith Alan
;    TITLE OF INVENTION:  Recombinant Toxin Fragments
;    NUMBER OF SEQUENCES:  29
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  STERNE, KESSLER, GOLDSTEIN, & FOX P.L.L.C.
;      STREET:  1100 NEW YORK AVENUE, NW, SUITE 600
;      CITY:  WASHINGTON
;      STATE:  DC
;      COUNTRY:  USA
;      ZIP:  20005-3934
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30 (EPO)
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/09/255,829
;      FILING DATE:  23-FEB-1999
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  PCT/GB97/02273
;      FILING DATE:  22-AUG-1997
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/782,893
;      FILING DATE:  27-DEC-1996
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  ESMOND, ROBERT W.
;      REGISTRATION NUMBER:  32,893
;      REFERENCE/DOCKET NUMBER:  1581.0130002
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  202-371-2600
;      TELEFAX:  202-371-2540
;  INFORMATION FOR SEQ ID NO:  14:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  953 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-09-255-829-14

  Query Match            100.0%;  Score 385;  DB 4;  Length 953;
  Best Local Similarity   100.0%;  Pred. No. 5.8e-39;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        882 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 941

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db        942 CAPLKPAKSA 951


RESULT 38
US-08-180-572-5
; Sequence 5, Application US/08180572
; Patent No. 5408041
;  GENERAL INFORMATION:
;    APPLICANT:  Mundy, Gregory R
;    APPLICANT:  Gutierrez, Gloria E
;    APPLICANT:  Garrett, Ian R
;    APPLICANT:  Sabatini, Massimo
;    APPLICANT:  Izbicka, Elzbieta
;    APPLICANT:  Burgess, Wilson
;    APPLICANT:  Crumley, Gregg
;    APPLICANT:  Moore, Clarence
```

```
;    TITLE OF INVENTION:  Antler-Derived Bone Growth Factors
;    NUMBER OF SEQUENCES:  22
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Rhone-Poulenc Rorer Legal Department
;      STREET:  500 Arcola Road
;      CITY:  Collegeville
;      STATE:  PA
;      COUNTRY:  USA
;      ZIP:  19426
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/180,572
;      FILING DATE:
;      CLASSIFICATION:  530
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/855,415
;      FILING DATE:  18-MAR-1992
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Goodman, Rosanne
;      REGISTRATION NUMBER:  32,534
;      REFERENCE/DOCKET NUMBER:  A0880
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (215) 454-3817
;      TELEFAX:  (215) 454-3808
;  INFORMATION FOR SEQ ID NO:  5:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  70 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
US-08-180-572-5

  Query Match             99.2%;  Score 382;  DB 1;  Length 70;
  Best Local Similarity   98.6%;  Pred. No. 7.6e-40;
  Matches   69;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||:|||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRKAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         61 CAPLKPAKSA 70


RESULT 39
US-09-142-583A-4
; Sequence 4, Application US/09142583A
; Patent No. 6221842
;   GENERAL INFORMATION:
;        APPLICANT: GOLDSPINK, GEOFFREY
;        TITLE OF INVENTION: METHOD OF TREATING MUSCULAR DISORDERS
;        NUMBER OF SEQUENCES: 11
;        CORRESPONDENCE ADDRESS:
;             ADDRESSEE: NIXON & VANDERHYE P.C.
;             STREET: 1100 NORTH GLEBE ROAD
;             CITY: ARLINGTON
;             STATE: VA
;             COUNTRY: USA
;             ZIP: 22201
;        COMPUTER READABLE FORM:
;             MEDIUM TYPE: Floppy disk
;             COMPUTER: IBM PC compatible
;             OPERATING SYSTEM: PC-DOS/MS-DOS
;             SOFTWARE: PatentIn Release #1.0, Version #1.25
;        CURRENT APPLICATION DATA:
;             APPLICATION NUMBER: US/09/142,583A
;             FILING DATE: 29-Oct-1998
;             CLASSIFICATION: <Unknown>
;        PRIOR APPLICATION DATA:
;             APPLICATION NUMBER: WO PCT/GB97/00658
;             FILING DATE: 11-MAR-1997
;             APPLICATION NUMBER: GB 9605124.8
;             FILING DATE: 11-MAR-1996
;        ATTORNEY/AGENT INFORMATION:
;             NAME: SADOFF, B. J.
;             REGISTRATION NUMBER: 36663
;             REFERENCE/DOCKET NUMBER: 117-263
;        TELECOMMUNICATION INFORMATION:
;             TELEPHONE: 7038164000
;             TELEFAX: 7038164100
;   INFORMATION FOR SEQ ID NO: 4:
;        SEQUENCE CHARACTERISTICS:
;             LENGTH: 121 amino acids
;             TYPE: amino acid
;             TOPOLOGY: linear
;        MOLECULE TYPE: protein
;        SEQUENCE DESCRIPTION: SEQ ID NO: 4:
US-09-142-583A-4

  Query Match             99.2%;  Score 382;  DB 3;  Length 121;
  Best Local Similarity   98.6%;  Pred. No. 1.4e-39;
  Matches   69;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||:|||||||||||||||||||||||||||
Db         11 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRKAPQTGIVDECCFRSCDLRRLEMY 70

Qy         61 CAPLKPAKSA 70
              ||||||||:|
Db         71 CAPLKPAKAA 80


RESULT 40
US-07-947-035-18
; Sequence 18, Application US/07947035
; Patent No. 5444045
;  GENERAL INFORMATION:
;    APPLICANT:  Francis, Geoffrey L.
;    APPLICANT:  Walton, Paul E.
;    APPLICANT:  Ballard, Francis J.
;    APPLICANT:  McMurty, John P.
;    APPLICANT:  Phelps, Patricia V.
;    TITLE OF INVENTION:  Method of Administering IGF-1, IGF-2,
;    TITLE OF INVENTION:  and Analogs Thereof to Birds
;    NUMBER OF SEQUENCES:  18
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Kenneth D. Sibley
;      STREET:  P.O. Drawer 34009
;      CITY:  Charlotte
;      STATE:  No. 5444045th Carolina
;      COUNTRY:  US
;      ZIP:  28234
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/07/947,035
;      FILING DATE:  17-SEP-1992
;      CLASSIFICATION:  514
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Sibley, Kenneth D.
;      REGISTRATION NUMBER:  31,665
;      REFERENCE/DOCKET NUMBER:  5175-59
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (919) 881-3140
;      TELEFAX:  (919) 881-3175
;      TELEX:  575102
;  INFORMATION FOR SEQ ID NO:  18:
;    SEQUENCE CHARACTERISTICS:
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;      LENGTH:  83 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
;    HYPOTHETICAL:  NO
US-07-947-035-18

  Query Match             98.7%;  Score 380;  DB 1;  Length 83;
  Best Local Similarity   98.6%;  Pred. No. 1.6e-39;
  Matches   69;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              || |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         14 GPRTLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 73

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         74 CAPLKPAKSA 83


Search completed: February 25, 2004, 06:25:56
Job time : 18.8613 secs
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GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: February 25, 2004, 06:17:27 ; Search time 51.0949 Seconds
(without alignments)
387.090 Million cell updates/sec

Title: US-10-066-009A-1
Perfect score: 385
Sequence: 1 GPETLCGAELVDALQFVCGD.....SCDLRRLEMYCAPLKPAKSA 70

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 1586107 seqs, 282547505 residues

Total number of hits satisfying chosen parameters: 1586107

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : A_Geneseq_29Jan04:*
1: geneseqp1980s:*
2: geneseqp1990s:*
3: geneseqp2000s:*
4: geneseqp2001s:*
5: geneseqp2002s:*
6: geneseqp2003as:*
7: geneseqp2003bs:*
8: geneseqp2004s:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	385	100.0	70	1	AAP40034	Aap40034 Sequence
2	385	100.0	70	1	AAP71539	Aap71539 Sequence
3	385	100.0	70	1	AAP70414	Aap70414 Sequence
4	385	100.0	70	1	AAP91502	Aap91502 New insul
5	385	100.0	70	2	AAR36846	Aar36846 Insulin-l
6	385	100.0	70	2	AAR41774	Aar41774 hIGF-I. 3
7	385	100.0	70	2	AAR43606	Aar43606 Peptide d
8	385	100.0	70	2	AAR55275	Aar55275 Sequence
9	385	100.0	70	2	AAR48590	Aar48590 Human IGF
10	385	100.0	70	2	AAR75657	Aar75657 Human ins
11	385	100.0	70	2	AAR89949	Aar89949 Recombina
12	385	100.0	70	2	AAR86874	Aar86874 Insulin l
13	385	100.0	70	2	AAR87744	Aar87744 Wild type
14	385	100.0	70	2	AAW33907	Aaw33907 Peptide d
15	385	100.0	70	2	AAW12342	Aaw12342 Human mat
16	385	100.0	70	3	AAB09616	Aab09616 Insulin l
17	385	100.0	70	3	AAY88577	Aay88577 Native hu
18	385	100.0	70	3	AAY84871	Aay84871 Amino aci
19	385	100.0	70	3	AAB12769	Aab12769 Human ins
20	385	100.0	70	3	AAB12772	Aab12772 Human ins
21	385	100.0	70	4	AAB35948	Aab35948 IGF-1A am
22	385	100.0	70	4	AAB35949	Aab35949 IGF-1B am
23	385	100.0	70	5	AAE18374	Aae18374 Human mat
24	385	100.0	70	5	AAM48217	Aam48217 Human ins
25	385	100.0	70	5	AAE27890	Aae27890 Human cod
26	385	100.0	70	5	AAE28004	Aae28004 Human cod
27	385	100.0	70	5	AAB71497	Aab71497 Human IGF
28	385	100.0	70	5	ABG76349	Abg76349 Human ful
29	385	100.0	70	5	AAU90781	Aau90781 Insulin/i
30	385	100.0	70	6	AAO16314	Aao16314 Insulin-l
31	385	100.0	71	1	AAP50872	Aap50872 Synthetic
32	385	100.0	71	1	AAP81203	Aap81203 Synthetic
33	385	100.0	71	2	AAR05281	Aar05281 Amino aci
34	385	100.0	71	2	AAR21709	Aar21709 Insulin-l
35	385	100.0	71	4	AAG62611	Aag62611 Human ins
36	385	100.0	72	2	AAR63194	Aar63194 Insulin-l
37	385	100.0	74	2	AAR13759	Aar13759 Beta-gal/
38	385	100.0	75	2	AAR41776	Aar41776 Modified
39	385	100.0	76	2	AAR13758	Aar13758 Beta-gal
40	385	100.0	78	1	AAP81213	Aap81213 Insulin-l
41	385	100.0	89	1	AAP40026	Aap40026 Fusion pr
42	385	100.0	90	1	AAP40024	Aap40024 Short fus
43	385	100.0	94	2	AAR53782	Aar53782 IGF-1 fus
44	385	100.0	94	2	AAR51474	Aar51474 lamB sign
45	385	100.0	95	2	AAR37549	Aar37549 Sequence

ALIGNMENTS

RESULT 1
AAP40034
ID AAP40034 standard; protein; 70 AA.
XX
AC AAP40034;
XX
DT 25-MAR-2003 (revised)
DT 02-FEB-1992 (first entry)
XX
DE Sequence of human insulin-like growth factor I (IGF-I).
XX
KW Yeast expression vector; somatic growth; growth promoter.
XX
OS Homo sapiens.
XX
PN EP123228-A.
XX
PD 31-OCT-1984.
XX
PF 13-APR-1984; 84EP-00104175.
XX
PR 25-APR-1983; 83US-00487950.
XX
PA (CHIR) CHIRON CORP.
XX
PI Barr PJ, Merryweath JP, Mullenbach G, Urdea MS;
XX
DR WPI; 1984-271223/44.
DR N-PSDB; AAN40026.
XX
PT Prodn. of human insulin-like growth factors - by DNA recombinant method,
PT utilising yeast transformant.
XX
PS Disclosure; Page 23; 24pp; English.
XX
CC The inventors claim a DNA construct which comprises AAN40026 or AAN40027.
CC The DNA constructs are stably replicated in yeasts in which pre-
CC polypeptides form in high yield. The yeast cells are then able to process
CC the pre-forms to the mature IGF. (Updated on 25-MAR-2003 to correct PA
CC field.)
XX
SQ Sequence 70 AA;

Query Match 100.0%; Score 385; DB 1; Length 70;
Best Local Similarity 100.0%; Pred. No. 2.8e-33;
Matches 70; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

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                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         61 CAPLKPAKSA 70
```

RESULT 2
AAP71539
ID AAP71539 standard; protein; 70 AA.
XX
AC AAP71539;
XX
DT 25-MAR-2003 (revised)
DT 10-MAR-2003 (revised)
DT 26-MAY-1991 (first entry)
XX
DE Sequence of human insulin-like growth factor I (IGF-I).
XX
KW Hormone; growth promoter.
XX
OS Homo sapiens.
XX
FH Key   Location/Qualifiers
FT Disulfide-bond 6. .47
FT Disulfide-bond 18. .61
FT Disulfide-bond 48. .52
XX
PN JP62169733-A.
XX
PD 25-JUL-1987.
XX
PF 22-JAN-1986; 86JP-00011280.
XX
PR 22-JAN-1986; 86JP-00011280.
XX
PA (FUJI) FUJISAWA PHARM CO LTD.
XX
DR WPI; 1987-246982/35.
XX
PT Human insulin-growth factor, which has a new prim. structure - is prepd.
PT by oxidising reduced form IGF-I and treating the obtd. cpds. by e.g.
PT chromatography, and is used for incorporating thymidine.
XX
PS Claim 2; Page 1; 6pp; Japanese.
XX
CC The IGF-I (and its salts) has strong effect for acceleration of thymidine
CC incorporation into animal cells, suggesting that it has strong growth
CC promoting effect. However it has no blood sugar lowering effect. (Updated
CC on 10-MAR-2003 to add missing OS field.) (Updated on 25-MAR-2003 to
CC correct PA field.)
XX
SQ Sequence 70 AA;

  Query Match   100.0%; Score 385; DB 1; Length 70;
  Best Local Similarity   100.0%; Pred. No. 2.8e-33;
  Matches   70; Conservative   0; Mismatches   0; Indels   0; Gaps   0;

```
Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         61 CAPLKPAKSA 70
```

RESULT 3
AAP70414
ID AAP70414 standard; protein; 70 AA.
XX
AC AAP70414;
XX
DT 25-MAR-2003 (revised)
DT 19-FEB-1991 (first entry)
XX
DE Sequence of oxidative human insulin-like growth factor I (IGF-I) (A
DE type).
XX
KW Hormone; sanatomedin.
XX
OS Homo sapiens.
XX
PN JP62190199-A.
XX
PD 20-AUG-1987.
XX
PF 14-FEB-1986; 86JP-00031512.
XX
PR 14-FEB-1986; 86JP-00031512.
XX
PA (FUJI) FUJISAWA PHARM CO LTD.
XX
DR WPI; 1987-273817/39.
XX
PT Human insulin like growth factor I prodn. - by oxidising reductive human
PT insulin-like growth factor.
XX
PS Claim 2; Page 935; 6pp; Japanese.
XX
CC The production of IGF-I-A by oxidising reductive human insulin-like
CC growth factor in a buffer soln. and separating I-A from the reaction
CC soln. is improved by the presence of an organic solvent which can
CC dissolve in the buffer soln. in the reaction system. (Updated on 25-MAR-
CC 2003 to correct PA field.)
XX
SQ Sequence 70 AA;

  Query Match   100.0%; Score 385; DB 1; Length 70;
  Best Local Similarity   100.0%; Pred. No. 2.8e-33;
  Matches   70; Conservative   0; Mismatches   0; Indels   0; Gaps   0;

```
Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         61 CAPLKPAKSA 70
```

RESULT 4
AAP91502
ID AAP91502 standard; peptide; 70 AA.
XX
AC AAP91502;
XX
DT 25-MAR-2003 (revised)
DT 06-JUN-1990 (first entry)
XX
DE New insulin-like growth factor-1 (IGF-I) deriv.
XX
KW Insulin-like growth factor-I; IGF-I; derivative; disulphide bond;
KW growth promoter; tissue repair.
XX
OS Unidentified.
XX
FH Key   Location/Qualifiers
FT Disulfide-bond 6
FT   /note= "Bonded to Cys-47"
FT Disulfide-bond 18
FT   /note= "Bonded to Cys-61"
FT Disulfide-bond 47
FT   /note= "Bonded to Cys-6"
FT Disulfide-bond 48

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FT                   /note= "Bonded to Cys-52"
FT   Disulfide-bond  52
FT                   /note= "Bonded to Cys-48"
FT   Disulfide-bond  61
FT                   /note= "Bonded to Cys-18"
FT   Misc-difference 70
FT                   /label= OTHER
FT                   /note= "Ala-NH2 or Ala-OH"
XX
PN   JP01066199-A.
XX
PD   13-MAR-1989.
XX
PF   04-SEP-1987;   87JP-00222735.
XX
PR   04-SEP-1987;   87JP-00222735.
XX
PA   (SUMU ) SUMITOMO SEIYAKU KK.
XX
DR   WPI; 1989-119491/16.
XX
PT   New insulin-like growth factor-I deriv. - prepd. by applying oxidn. to
PT   specific peptide, used as medical compsn. for promoting growth or
PT   repairing tissue.
XX
PS   Disclosure; Page 1; 8pp; Japanese.
XX
CC   The deriv. or salt is produced by oxidation of the AAP91502. IGF-I deriv.
CC   has growth promotion action only. It is used as a medical compsn. for
CC   promoting growth or repairing tissue. (Updated on 25-MAR-2003 to correct
CC   PA field.)
XX
SQ   Sequence 70 AA;

  Query Match             100.0%;  Score 385;  DB 1;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 2.8e-33;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         61 CAPLKPAKSA 70


RESULT 5
AAR36846
ID   AAR36846 standard; peptide; 70 AA.
XX
AC   AAR36846;
XX
DT   25-MAR-2003  (revised)
DT   02-SEP-1993  (first entry)
XX
DE   Insulin-like growth factor-I.
XX
KW   IGF-I; disorder; treatment; survival; retinal neuronal cells; promotion;
KW   injury; ageing; disease; photodegeneration; trauma; axotomy;
KW   neurotoxic-excitatory degeneration; diabetic retinopathy;
KW   ischemic neuronal degeneration; inherited retinal dystrophy;
KW   Alzheimer's disease; infantile malignant osteopetrosis; cholestasis;
KW   ceroid-lipofuscosis.
XX
OS   Homo sapiens.
XX
PN   WO9308826-A1.
XX
PD   13-MAY-1993.
XX
PF   03-NOV-1992;   92WO-US009443.
XX
PR   08-NOV-1991;   91US-00790690.
PR   15-OCT-1992;   92US-00963329.
XX
PA   (CEPH-) CEPHALON INC.
XX
PI   Bozyczko-Coyne D,  Neff N,  Lewis ME,  Iqbal M;
XX
DR   WPI; 1993-167389/20.
XX
PT   Use of IGF-I or IGF-II or their functional derivs. - for treating
PT   disorders characterised by death and/or dysfunction of retinal cells.
XX
PS   Example; Page 50; 97pp; English.
XX
CC   The sequence is that of human insulin-like growth factor (IGF)-I which
CC   promotes the survival of retinal neuronal cells. It can be used for the
CC   treatment of retinal neuronal tissues which are suffering from the
CC   effects of injury, ageing and/or disease such as photodegeneration,
CC   trauma, axotomy, neurotoxic-excitatory degeneration, ischemic neuronal
CC   degeneration, inherited retinal dystrophy, diabetic retinopathy,
CC   Alzheimer's disease, infantile malignant osteopetrosis, ceroid
CC   lipofuscosis or cholestasis. (Updated on 25-MAR-2003 to correct PN
CC   field.)
XX
SQ   Sequence 70 AA;

  Query Match             100.0%;  Score 385;  DB 2;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 2.8e-33;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         61 CAPLKPAKSA 70


RESULT 6
AAR41774
ID   AAR41774 standard; protein; 70 AA.
XX
AC   AAR41774;
XX
DT   25-MAR-2003  (revised)
DT   25-MAR-1994  (first entry)
XX
DE   hIGF-I.
XX
KW   Human; insulin-like growth factor; hIGF-I; reading frame;
KW   secretory signal; transcription; regulation; vector; host cell; yeast;
KW   IGF-II; "pre"-IGF.
XX
OS   Homo sapiens.
XX
PN   EP561137-A1.
XX
PD   22-SEP-1993.
XX
PF   13-APR-1984;   93EP-00101654.
XX
PR   25-APR-1983;   83US-00487950.
PR   13-APR-1984;   84EP-00104175.
XX
PA   (CHIR ) CHIRON CORP.
XX
PI   Barr PJ,  Merryweather JP,  Mullenbach G,  Urdea MS;
XX
DR   WPI; 1993-296480/38.
DR   N-PSDB; AAQ48492.
XX
PT   Prodn. of human IGF in unicellular host cells, used as a biologically
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PT   active medicament - by joining IGF genes to a secretory leader and
PT   processing signal sequences recognised by host then introducing vector
PT   into cells for growth.
XX
PS   Claim 1; Page 20-21; 30pp; English.
XX
CC   This sequence represents human insulin-like growth factor I (hIGF-I). The
CC   DNA encoding this sequence was joined in proper reading frame with a
CC   secretory leader and processing signal sequences recognised by host cells
CC   to form a structural gene downstream from and under the transcriptional
CC   regulatory control of a transcription initiation region in a vector
CC   compatible with the chosen host cells. The prepared vector may be used in
CC   the efficient production of hIGF-I by unicellular host cells, esp. yeast.
CC   Mature human IGF-I and IGF-II (see also AAR41775) produced in this manner
CC   may be used in medicaments. The synthetic coding sequence, pref.
CC   containing host-preferred codons, is joined in the same reading frame to
CC   secretion and processing signals which allow "pre"-IGF to be secreted by
CC   the host. This facilitates purification. (Updated on 25-MAR-2003 to
CC   correct PN field.) (Updated on 25-MAR-2003 to correct PF field.) (Updated
CC   on 25-MAR-2003 to correct PR field.)
XX
SQ   Sequence 70 AA;

  Query Match             100.0%;  Score 385;  DB 2;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 2.8e-33;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         61 CAPLKPAKSA 70


RESULT 7
AAR43606
ID   AAR43606 standard; peptide; 70 AA.
XX
AC   AAR43606;
XX
DT   25-MAR-2003  (revised)
DT   10-MAY-1994  (first entry)
XX
DE   Peptide derived from insulin-like growth factor.
XX
KW   IGF; IGF-II; neuronal cell survival; neurite regeneration; stroke;
KW   epilepsy; Parkinson's disease; head injury; spinal cord injury;
KW   age- related neuronal loss; amylotropic lateral sclerosis; cyclic.
XX
OS   Synthetic.
XX
PN   WO9320836-A1.
XX
PD   28-OCT-1993.
XX
PF   14-APR-1993;   93WO-US003515.
XX
PR   15-APR-1992;   92US-00869913.
PR   07-OCT-1992;   92US-00958903.
XX
PA   (CEPH-) CEPHALON INC.
XX
PI   Lewis ME,  Kauer JC,  Smith KR,  Callison KV,  Baldino F,  Neff N;
PI   Iqbal M;
XX
DR   WPI; 1993-351361/44.
XX
PT   Peptide(s) derived from insulin-like growth factor - used for promoting
PT   neuronal cell survival and neurite regeneration, partic. in treating
PT   diseases e.g. stroke, epilepsy, Parkinson's, etc.
XX
PS   Disclosure; Page 81; 119pp; English.
XX
CC   The sequence is that of a fragment of insulin-like growth factor II (IGF-
CC   II). The synthetic peptide can be used to enhance the survival of
CC   neuronal cells in a mammal that are at risk of dying or to treat a head
CC   or spinal cord injury, or to enhance neurite regeneration in a mammal, or
CC   to treat stroke, epilepsy, age-related neuronal loss, amylotropic lateral
CC   sclerosis and Parkinson's disease. See also AAR43590-645. (Updated on 25-
CC   MAR-2003 to correct PN field.)
XX
SQ   Sequence 70 AA;

  Query Match             100.0%;  Score 385;  DB 2;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 2.8e-33;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         61 CAPLKPAKSA 70


RESULT 8
AAR55275
ID   AAR55275 standard; protein; 70 AA.
XX
AC   AAR55275;
XX
DT   25-MAR-2003  (revised)
DT   29-DEC-1994  (first entry)
XX
DE   Sequence of insulin-like growth factor (IGF-1).
XX
KW   Insulin-like growth factor; IGF-1; mutein; ss.
XX
OS   Homo sapiens.
XX
PN   WO9412219-A2.
XX
PD   09-JUN-1994.
XX
PF   24-NOV-1993;   93WO-US011458.
XX
PR   25-NOV-1992;   92US-00980519.
XX
PA   (SYND ) SYNERGEN INC.
XX
PI   Cox GN,  Mcdermott MJ;
XX
DR   WPI; 1994-199978/24.
XX
PT   New polyethylene glycol conjugates of insulin-like growth factor muteins
PT   - including new muteins with a free cysteine in the N-terminal region.
XX
PS   Disclosure; Page 8; 32pp; English.
XX
CC   The IGF muteins of the invention are produced by modifying wt IGF, esp.
CC   at the N-terminus. The sequence of IGF-1 starting from the N- terminal
CC   end is given in AAR55275. In the examples, four muteins of IGF-1 were
CC   constructed. Three of the muteins replaced each of the first three AAs of
CC   IGF-1 with a Cys. These muteins are referred to as C1, C2 and C3
CC   respectively (AAQ65692, AAQ65693, AAQ65694). The fourth mutein introduced
CC   a Cys between the N-terminal Met and the first AA of IGF-1. This mutein
CC   is referrred to as -1C (AAQ65691). (Updated on 25-MAR-2003 to correct PN
CC   field.)
XX
SQ   Sequence 70 AA;

  Query Match             100.0%;  Score 385;  DB 2;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 2.8e-33;
```

```
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         61 CAPLKPAKSA 70


RESULT 9
AAR48590
ID   AAR48590 standard; peptide; 70 AA.
XX
AC   AAR48590;
XX
DT   25-MAR-2003  (revised)
DT   15-AUG-1994  (first entry)
XX
DE   Human IGF-I peptide 1-70.
XX
KW   IGF-I; insulin-like growth factor-I; somatomedin-c.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Peptide         1. .70
FT                   /note= "1-70 region of human IGF-I"
XX
PN   WO9404569-A1.
XX
PD   03-MAR-1994.
XX
PF   20-AUG-1993;   93WO-GB001774.
XX
PR   20-AUG-1992;   92GB-00017696.
XX
PA   (AGRI-) AGRIC & FOOD RES COUNCIL.
XX
PI   Pell JM,  Bates PC,  Stewart EH;
XX
DR   WPI; 1994-083113/10.
XX
PT   Specific binding molecules which enhance insulin like growth factor-I
PT   activity - for use in treating or preventing conditions in which IGF-I is
PT   useful.
XX
PS   Disclosure; Page 28; 103pp; English.
XX
CC   Antibodies and other specific binding molecules which bind to insulin-
CC   like growth factor-I (IGF-I), particularly the 1-17, 18-21, 22-37, 45-53,
CC   54-60 or, especially, the 36-44 region, potentiate or enhance IGF-I
CC   activity. (Updated on 25-MAR-2003 to correct PN field.)
XX
SQ   Sequence 70 AA;

  Query Match             100.0%;  Score 385;  DB 2;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 2.8e-33;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         61 CAPLKPAKSA 70


RESULT 10
AAR75657
ID   AAR75657 standard; protein; 70 AA.
XX
AC   AAR75657;
XX
DT   25-MAR-2003  (revised)
DT   30-AUG-1995  (first entry)
XX
DE   Human insulin-like growth factor I.
XX
KW   Polycistronic gene; insulin-like growth factor I; IGF-I; cistron;
KW   protecting peptide; recombinant production.
XX
OS   Homo sapiens.
XX
PN   JP06319556-A.
XX
PD   22-NOV-1994.
XX
PF   11-SEP-1986;   93JP-00111559.
XX
PR   17-SEP-1985;   85GB-00022977.
PR   11-SEP-1986;   86JP-00214736.
XX
PA   (FUJI ) FUJISAWA PHARM CO LTD.
XX
DR   WPI; 1995-040316/06.
XX
PT   Gene coding for human insulin-like growth factor I (IGF-I) fused to
PT   protecting peptide - for preparation of IGF-I.
XX
PS   Disclosure; Page 2; 11pp; Japanese.
XX
CC   A fusion protein (AAR66762) comprises a protecting peptide (AAR75658)
CC   which has a methionine residue as its C-terminal amino acid, fused to
CC   insulin-like growth factor I (IGF-I) via the methionine residue. The gene
CC   encoding the fusion protein may be used in the construction of expression
CC   vectors, which in turn can be used for the transformation of suitable
CC   microbial host cells. The polycistronic gene allows the efficient
CC   preparation of IGF-I. (Updated on 25-MAR-2003 to correct PF field.)
CC   (Updated on 25-MAR-2003 to correct PR field.)
XX
SQ   Sequence 70 AA;

  Query Match             100.0%;  Score 385;  DB 2;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 2.8e-33;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         61 CAPLKPAKSA 70


RESULT 11
AAR89949
ID   AAR89949 standard; protein; 70 AA.
XX
AC   AAR89949;
XX
DT   20-APR-1996  (first entry)
XX
DE   Recombinant insulin-like growth factor-1.
XX
KW   Human; insulin-like growth factor-1; somatomedin-C; cloning;
KW   Escherichia coli; plasmid pER10088; vector; osteogenic;
KW   insulin-like growth factor binding protein-3; bone; osteoporosis;
KW   hypophosphataemia; hyperphosphataemia; diabetes mellitus;
KW   anorexia nervosa; cadmium poisoning; Paget disease; osteoarthritis;
KW   periodontal disease.
XX
OS   Homo sapiens.
```

XX
PN WO9602565-A1.
XX
PD 01-FEB-1996.
XX
PF 13-JUL-1995; 95WO-US008925.
XX
PR 20-JUL-1994; 94US-00278456.
XX
PA (CELT-) CELTRIX PHARM INC.
XX
PI Bagi CM, Brommage R, Rosen DM, Adams SW;
XX
DR WPI; 1996-105855/11.
XX
PT Stimulating bone formation using insulin-like growth factor-I and its
PT binding protein - for treating bone loss due to bone marrow disorders,
PT drug-related osteoporosis, periodontal disease, etc.
XX
PS Example 3; Page 62-63; 97pp; English.
XX
CC The sequence corresponds to human recombinant insulin-like growth factor-
CC 1 (somatomedin-C). The protein may be produced by expression in
CC Escherichia coli K-12 W3110, using plasmid pER10088, a plasmid pJU1003
CC derivative. The protein may be used along with insulin-like growth factor
CC binding protein-3 in an osteogenic composition to stimulate bone
CC formation in subjects with bone loss resulting from a bone marrow or
CC connective tissue disorder, drug-related osteoporosis, pregnancy,
CC lactation, chronic hypo- or hyperphosphataemia, diabetes mellitus,
CC anorexia nervosa, cadmium poisoning, juvenile osteoporosis, Paget
CC disease, periodontal disease or osteoarthritis
XX
SQ Sequence 70 AA;

Query Match 100.0%; Score 385; DB 2; Length 70;
Best Local Similarity 100.0%; Pred. No. 2.8e-33;
Matches 70; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy 61 CAPLKPAKSA 70
||||||||||
Db 61 CAPLKPAKSA 70

RESULT 12
AAR86874
ID AAR86874 standard; protein; 70 AA.
XX
AC AAR86874;
XX
DT 22-JUL-1996 (first entry)
XX
DE Insulin like growth factor I.
XX
KW Silkworm; Bombyx mori; nuclear polyhedrosis virus; polyhedron gene;
KW recombinant production; insulin like growth factor I; IGF-I.
XX
OS Synthetic.
XX
PN JP07289270-A.
XX
PD 07-NOV-1995.
XX
PF 14-NOV-1986; 95JP-00004621.
XX
PR 14-NOV-1986; 95JP-00004621.
XX
PA (DAUC) DAIICHI PHARM CO LTD.
XX
DR WPI; 1996-015274/02.
DR N-PSDB; AAT07075.
XX
PT Recombinant silkworm nuclear polyhedrosis virus contg. foreign gene -
PT useful for production of heterologous proteins in silkworms.
XX
PS Example 1; Fig 13; 11pp; Japanese.
XX
CC The present sequence is an insulin like growth factor I (IGF-I). A
CC plasmid carrying a 5'-upstream nucleotide sequence contg. a promoter,
CC part of, or the whole of the silkworm nuclear polyhedrosis virus (BmNPV)
CC structural polyhedron gene, the structural gene for a desired protein,
CC i.e. an IGF-I gene and a 3'-downstream nucleotide sequence contg. a BmNPV
CC terminator can be used to transfect a silkworm host, resulting in the
CC expression of the desired protein
XX
SQ Sequence 70 AA;

Query Match 100.0%; Score 385; DB 2; Length 70;
Best Local Similarity 100.0%; Pred. No. 2.8e-33;
Matches 70; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy 61 CAPLKPAKSA 70
||||||||||
Db 61 CAPLKPAKSA 70

RESULT 13
AAR87744
ID AAR87744 standard; protein; 70 AA.
XX
AC AAR87744;
XX
DT 26-JUN-1996 (first entry)
XX
DE Wild type IGF-1 sequence.
XX
KW Insulin-like growth factor-1; IGF-1; polyethylene glycol; PEG; triflate;
KW IGF-1/PEG conjugate; maleimide; sulphydryl; thiol; tresylate; aziride;
KW exirane; 5-pyridyl; therapy; dwarfism; diabetes; periodontal disease;
KW osteoporosis.
XX
OS Synthetic.
XX
PN WO9532003-A1.
XX
PD 30-NOV-1995.
XX
PF 24-MAY-1995; 95WO-US006540.
XX
PR 24-MAY-1994; 94US-00248273.
XX
PA (AMGE-) AMGEN BOULDER INC.
XX
PI Cox GN, Mcdermott MJ, Ko C;
XX
DR WPI; 1996-020360/02.
XX
PT Conjugates for treatment of, e.g. dwarfism, diabetes, or osteoporosis -
PT comprising polyethylene glycol attached to mutein of IGF at free
PT cysteine.
XX
PS Disclosure; Page 8; 48pp; English.
XX
CC This sequence represents the wild type insulin-like growth factor-1 (IGF-
CC 1) sequence. This sequence is modified to produce the muteins of the
CC invention (represented by AAR95832-R95844). The muteins created, contain
CC a non-native cystein residue substituted for one of the first (or last)
CC four amino acid residues of this sequence. Polyethylene glycol (PEG)
CC conjugates are then created from the muteins, where the PEG is attatched

```
CC   to the non-native cystein residue. The PEG is attached to the free
CC   cystein through an activating group selected from maleimide, sulphydryl,
CC   thiol, triflate, tresylate, aziride, exirane or 5-pyridyl. The conjugates
CC   can also comprise a second polypeptide attached to the PEG. The
CC   conjugates may be used for the treatment of IGF associated conditions,
CC   such as dwarfism, diabetes, periodontal disease or osteoporosis.
CC   Advantages associated with the conjugates are that they have a higher
CC   molecular weight, and an extended circulating half life in comparison to
CC   wild type IGF
XX
SQ   Sequence 70 AA;

  Query Match             100.0%;  Score 385;  DB 2;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 2.8e-33;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         61 CAPLKPAKSA 70


RESULT 14
AAW33907
ID   AAW33907 standard; peptide; 70 AA.
XX
AC   AAW33907;
XX
DT   23-APR-1998  (first entry)
XX
DE   Peptide derived from human insulin-like growth factor-1 (IGF-1).
XX
KW   Insulin-like growth factor; IGF; IGF-1; insulin; IGF-1 receptor;
KW   ligand inhibitor; IGF-1 analogue; IGF binding protein; IGFBP;
KW   IGF-responsive condition; IGF-I level.
XX
OS   Homo sapiens.
XX
PN   WO9739032-A1.
XX
PD   23-OCT-1997.
XX
PF   17-APR-1997;   97WO-US006503.
XX
PR   17-APR-1996;   96US-00633934.
XX
PA   (NEUR-) NEUROCRINE BIOSCIENCES INC.
XX
PI   Behan D,  Ling N,  Liu X,  Gaur A;
XX
DR   WPI; 1997-526402/48.
XX
PT   Ligand inhibitor of insulin-like growth factor binding - used to increase
PT   level of free growth factor and treat growth factor-responsive
PT   conditions.
XX
PS   Disclosure; Page 19; 35pp; English.
XX
CC   The present sequence represents a peptide that is derived from human
CC   insulin-like growth factor-1 (IGF-1). IGFs are polypeptide hormones that
CC   are similar to insulin. IGF-1 mimics the action of insulin, and the IGF-1
CC   receptor has high homology to the insulin receptor. The peptide was used
CC   to create an analogue that acts as a ligand inhibitor. This ligand
CC   inhibitor (AAW35908) inhibits binding of IGF-1 to IGF binding protein
CC   (IGFBP). The ligand inhibitor is used to increase the level of free,
CC   biologically active IGF in a patient or to treat an IGF-responsive
CC   condition. The inhibitor is particularly used to increase IGF-I or IGF-II
CC   levels in the blood or brain, specifically for treating diabetes (insulin
CC   dependent or not), growth retardation, osteoporosis, human growth hormone
CC   (hGH) resistance, wounds, bone damage, amyotrophic lateral sclerosis,
CC   Alzheimer's disease, demyelinating disease, multiple sclerosis, muscular
CC   dystrophy, stroke or neuronal degeneration
XX
SQ   Sequence 70 AA;

  Query Match             100.0%;  Score 385;  DB 2;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 2.8e-33;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         61 CAPLKPAKSA 70


RESULT 15
AAW12342
ID   AAW12342 standard; protein; 70 AA.
XX
AC   AAW12342;
XX
DT   16-JUN-1997  (first entry)
XX
DE   Human mature insulin-like growth factor-I.
XX
KW   Insulin-like growth factor I; IGF-I; mitogen;
KW   insulin-like growth factor binding protein 3; IGFBP-3; protein refolding.
XX
OS   Homo sapiens.
XX
PN   WO9640736-A1.
XX
PD   19-DEC-1996.
XX
PF   30-MAY-1996;   96WO-US008113.
XX
PR   07-JUN-1995;   95US-00482271.
XX
PA   (CELT-) CELTRIX PHARM INC.
XX
PI   Sommer A,  Ogawa Y,  Tao P;
XX
DR   WPI; 1997-099914/09.
XX
PT   Prepn. of complex of native insulin-like growth factor and binding
PT   protein - by denaturing, reducing and refolding, by oxidn. of both
PT   components together, to increase speed of refolding and improve yield.
XX
PS   Disclosure; Fig 1; 45pp; English.
XX
CC   Human insulin-like growth factor I (IGF-I) (AAW12342) is a known mitogen
CC   and growth factor which, when formulated with insulin-like growth factor
CC   binding protein 3 (IGFBP-3) (see also AAW12343-44), has greater effect
CC   when applied topically to wounds, or is free of hypoglycaemic activity
CC   when administered parenterally. IGF-I may be produced in transformed host
CC   cells, pref. E. coli, opt. as a fusion protein with yeast ubiquitin (see
CC   also AAT59189). A complex of IGF-I and IGFBP-3 is formed by: denaturing a
CC   mixt. of the 2 proteins; reducing the mixt.; and adding an oxidising
CC   agent to form the complex. By co-folding IGF-I and IGFBP-3, significantly
CC   higher yields of both proteins in correctly folded form are achieved
CC   (almost 100% for IGF-I) and refolding is usually complete within 1-3 hr
XX
SQ   Sequence 70 AA;

  Query Match             100.0%;  Score 385;  DB 2;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 2.8e-33;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
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```
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         61 CAPLKPAKSA 70
```

RESULT 16
AAB09616
ID AAB09616 standard; protein; 70 AA.
XX
AC AAB09616;
XX
DT 01-SEP-2000 (first entry)
XX
DE Insulin like growth factor 1 amino acid sequence - Fig 3.
XX
KW Human; insulin like growth factor; IGF; IGFBP; binding domain;
KW insulin like growth factor binding protein; diabetic complication;
KW ischaemic injury; antagonist; modification; gene therapy; cytostatic;
KW vasotropic; antidiabetic; antiParkinsonian; neuroprotective; osteopathic;
KW antiarthritic; vulnerary; tranquilliser; neurologic disease; head trauma;
KW Parkinson's disease; amyotrophic lateral sclerosis; multiple sclerosis;
KW osteoporosis; arthritis.
XX
OS Homo sapiens.
XX
PN WO200023469-A2.
XX
PD 27-APR-2000.
XX
PF 14-OCT-1999; 99WO-US023839.
XX
PR 16-OCT-1998; 98US-0104528P.
XX
PA (MUSC-) MUSC FOUND RES DEV.
XX
PI Rosenzweig SA, Horney MJ;
XX
DR WPI; 2000-339652/29.
XX
PT New isolated peptide having an insulin-like growth factor domain of an
PT insulin-like growth factor binding protein, useful for treating or
PT preventing cancer or diabetic complications, or for treating ischemic
PT injury.
XX
PS Disclosure; Fig 3; 106pp; English.
XX
CC The present invention describes an isolated peptide (A) comprising an
CC insulin like growth factor (IGF) binding domain of an IGF-binding protein
CC (IGFBP) or its modification. (A) binds IGF with at least the same binding
CC affinity as the full length IGFBP. A peptide from the present invention
CC can have cytostatic, vasotropic, antidiabetic, antiParkinsonian,
CC neuroprotective, osteopathic, antiarthritic, vulnerary and tranquilliser
CC activities. The peptide is an IGF inhibitor, IGF antagonist and can be
CC used in gene therapy. The peptide and antagonists from the present
CC invention are useful for the treatment or prevention of cancer or
CC diabetic complications, and for treating ischaemic injury. Other diseases
CC or injuries that can be treated with the fragment or antagonist include
CC neurologic diseases and injuries, e.g. Parkinson's disease, amyotrophic
CC lateral sclerosis, head trauma or multiple sclerosis, osteoporosis or
CC arthritis. The biotinylated IGF is useful in therapeutic assays for IGFBP
CC and in screening for IGFBP-mimetics (e.g. IGF antagonists). AAB09616 to
CC AAB09773 represent amino acid sequences used in the exemplification of
CC the present invention
XX
SQ Sequence 70 AA;

```
  Query Match             100.0%;  Score 385;  DB 3;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 2.8e-33;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         61 CAPLKPAKSA 70
```

RESULT 17
AAY88577
ID AAY88577 standard; protein; 70 AA.
XX
AC AAY88577;
XX
DT 10-AUG-2000 (first entry)
XX
DE Native human insulin-like growth factor I (IGF-I) protein sequence.
XX
KW Insulin-like growth factor; IGF-I; human; alleviate symptom; treatment;
KW cancer; breast; prostate; colon; lung; alopecia; leukopaenia; mucositis;
KW null IGF-I.
XX
OS Homo sapiens.
XX
PN WO200020023-A2.
XX
PD 13-APR-2000.
XX
PF 29-SEP-1999; 99WO-US022681.
XX
PR 02-OCT-1998; 98US-0102747P.
PR 20-SEP-1999; 99US-00399120.
XX
PA (CELT-) CELTRIX PHARM INC.
XX
PI Mascarenhas D;
XX
DR WPI; 2000-303638/26.
XX
PT Treating cancers of the breast, lung and prostate using null insulin-like
PT growth factor.
XX
PS Disclosure; Fig 1; 16pp; English.
XX
CC This sequence represents the native human insulin-like growth factor-I
CC (IGF-I) amino acid sequence. IGF-I mediates the effects of the growth
CC hormones, and circulates with insulin-like growth factor binding protein-
CC 3 (IGFBP-3). The administration of null IGF-I to a cancer patient, can be
CC used as a method for alleviating the symptoms of cancer (or slowing the
CC progression of cancer). In an example of the method, Y60L IGF-I is used
CC as null IGF-I. The null IGF-I has reduced receptor binding affinity. The
CC method is preferably used to treat breast, prostate, colon and/or lung
CC cancer. The use of null IGF-I to treat cancer avoids the side effects
CC associated with conventional chemotherapy such as alopecia, leukopaenia
CC and mucositis
XX
SQ Sequence 70 AA;

```
  Query Match             100.0%;  Score 385;  DB 3;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 2.8e-33;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         61 CAPLKPAKSA 70
```

RESULT 18
AAY84871

```
ID   AAY84871 standard; protein; 70 AA.
XX
AC   AAY84871;
XX
DT   08-AUG-2000  (first entry)
XX
DE   Amino acid sequence of native human insulin growth factor-1 (IGF-1).
XX
KW   Insulin growth factor-1; IGF-1; non-thyroid disorder; IGFBP-3;
KW   insulin-like growth factor binding protein; neurological disorder;
KW   thyroid axis agonist; IGF-dependent disorder; pulmonary disorder;
KW   growth disorder; gastrointestinal disorder; cancer cachexia;
KW   steroid-induced catabolism; bone disorder; reproductive disorder;
KW   haematopoietic disorder; glucose homeostasis.
XX
OS   Homo sapiens.
XX
PN   WO200020024-A2.
XX
PD   13-APR-2000.
XX
PF   29-SEP-1999;   99WO-US022761.
XX
PR   02-OCT-1998;   98US-0102790P.
PR   20-SEP-1999;   99US-00399134.
XX
PA   (CELT-) CELTRIX PHARM INC.
XX
PI   Mascarenhas D;
XX
DR   WPI; 2000-317646/27.
XX
PT   Alleviating symptoms of non-thyroid disorders such as amyotrophic lateral
PT   sclerosis or autoimmune disease, comprises administration of insulin-like
PT   growth factor with thyroid axis agonist or antagonist.
XX
PS   Disclosure; Fig 1; 22pp; English.
XX
CC   The present sequence represents a human insulin growth factor-1 (IGF-1)
CC   protein. The specification describes a method for alleviating symptoms of
CC   a non-thyroid disorder which responds to IGF or insulin-like growth
CC   factor binding protein (IGFBP-3). The method comprises administering IGF
CC   or IGFBP-3 (as appropriate) with a thyroid axis agonist to a patient.
CC   Administration of a thyroid axis agonist IGF enhances the actions of IGF.
CC   Administration of a thyroid axis antagonist with IGFBP-3 enhances the
CC   anti-mitotic and pro-apoptotic activities of IGFBP-3 to alleviate the
CC   symptoms of non-thyroid disorders. The methods are useful for alleviating
CC   the symptoms of non-thyroid disorders or an IGF-dependent disorder,
CC   neurological disorders, pulmonary disorders, growth disorders, recovery
CC   from bodily insults, gastrointestinal disorders, cancer cachexia, steroid
CC   -induced catabolism, bone disorders, reproductive disorders,
CC   haematopoietic disorders, and disorders of glucose homeostasis
XX
SQ   Sequence 70 AA;

  Query Match             100.0%;  Score 385;  DB 3;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 2.8e-33;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         61 CAPLKPAKSA 70


RESULT 19
AAB12769
ID   AAB12769 standard; protein; 70 AA.
XX
AC   AAB12769;
XX
DT   22-NOV-2000  (first entry)
XX
DE   Human insulin-like growth factor 1 protein SEQ ID NO:1.
XX
KW   Human; insulin-like growth factor 1; IGF-1; proinsulin; insulin; mutant;
KW   variant; insulin-like growth factor binding protein; IGFBP-1; IGFBP-3;
KW   antidiabetic; neuroprotective; anorectic; tranquilliser; vulnerary;
KW   anorectic; cardiant; nephrotropic; dermatological; antiHIV; antiviral;
KW   hyperglycaemia; obesity; lung disease; glomerulonephritis;
KW   interstitial nephritis; Turner's syndrome; Laron's syndrome;
KW   short stature; increased fat mass-to-lean ratio; immunological disorder;
KW   peripheral neuropathy; multiple sclerosis; muscular dystrophy;
KW   catabolic state; trauma; wounding; infection; HIV; skin disorder;
KW   human immunodeficiency virus; diabetes; heart dysfunction;
KW   kidney disorder; whole body growth disorder.
XX
OS   Homo sapiens.
XX
PN   WO200040612-A1.
XX
PD   13-JUL-2000.
XX
PF   05-JAN-2000; 2000WO-US000151.
XX
PR   06-JAN-1999;   99US-0115010P.
XX
PA   (GETH ) GENENTECH INC.
XX
PI   Dubaquie Y,  Lowman H;
XX
DR   WPI; 2000-465955/40.
XX
PT   Novel insulin-like growth factor (IGF) 1 mutants that selectively bind to
PT   IGF binding protein (IGFBP)-1 or IGFBP-3, used to improve the half-lives
PT   of IGF-I and insulin.
XX
PS   Disclosure; Page 44; 48pp; English.
XX
CC   The present invention describes an insulin-like growth factor (IGF)-1
CC   variant (I), where an amino acid at position 3, 4, 5, 7, 10, 14, 17, 23,
CC   24, 25, 43, 49 or 63, optionally in combination with an amino acid at
CC   position 12 and/or 16 of the native human IGF-1 sequence, is replaced
CC   with an alanine, glycine, or a serine residue. The residue at position 7
CC   may be replaced by any amino acid. (I) can have antidiabetic, cardiant,
CC   neuroprotective, anorectic, tranquilliser, vulnerary, anorectic,
CC   nephrotropic, dermatological, antiHIV and antiviral activities. The IGF-1
CC   mutants are used in any methods where IGFs or insulin are used, e.g. in
CC   treating hyperglycaemia, obesity-related, neurological, cardiac, renal,
CC   immunological, and anabolic disorders. These disorders include lung
CC   diseases, glomerulonephritis, interstitial nephritis, Turner's syndrome,
CC   Laron's syndrome, short stature, increased fat mass-to-lean ratios,
CC   immunological disorders, peripheral neuropathy, multiple sclerosis,
CC   muscular dystrophy, catabolic states, trauma, wounding, infection, human
CC   immunodeficiency virus (HIV), wounds, skin disorders, diabetes, heart
CC   dysfunctions, kidney disorders, and whole body growth disorders. They can
CC   also be used for increasing serum and tissue levels of biological active
CC   IGF or insulin a mammal. The IGF-1 mutants improve the half-lives of IGF-
CC   1 and insulin. The present sequence represents the native human IGF-1
CC   protein sequence
XX
SQ   Sequence 70 AA;

  Query Match             100.0%;  Score 385;  DB 3;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 2.8e-33;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              ||||||||||
```

```
Db         61 CAPLKPAKSA 70


RESULT 20
AAB12772
ID   AAB12772 standard; protein; 70 AA.
XX
AC   AAB12772;
XX
DT   22-NOV-2000  (first entry)
XX
DE   Human insulin-like growth factor 1 protein SEQ ID NO:1.
XX
KW   Human; insulin-like growth factor 1; IGF-1; proinsulin; insulin; mutant;
KW   variant; cardiant; nephrotropic; hepatotropic; anabolic; antidiabetic;
KW   hyperglycaemic disorder; renal disorder; hepatic failure;
KW   congestive heart failure; poor nutrition; wasting syndrome; IGFBP-1;
KW   insulin-like growth factor binding protein.
XX
OS   Homo sapiens.
XX
PN   WO200040613-A1.
XX
PD   13-JUL-2000.
XX
PF   05-JAN-2000; 2000WO-US000199.
XX
PR   06-JAN-1999;   99US-0115010P.
PR   09-DEC-1999;   99US-0170261P.
XX
PA   (GETH ) GENENTECH INC.
XX
PI   Dubaquie Y,  Fielder PJ,  Lowman HB,  Mortensen DL;
XX
DR   WPI; 2000-465956/40.
XX
PT   Insulin-like growth factor (IGF) variants binding to IGF binding protein
PT   1 and 3 (IGFBP-1 and 3), useful for the treatment of various disorders
PT   such as renal disorders and congestive heart failure.
XX
PS   Disclosure; Page 56; 62pp; English.
XX
CC   The present invention describes an insulin-like growth factor-1 (IGF-1)
CC   variant (I) where the amino acid at position 16, 25, or 49 or the amino
CC   acid residues at positions 3 and 49 of the native-sequence of human IGF-1
CC   are replaced with an alanine, a glycine or a serine residue. Also
CC   described are: (1) a method for treating a disorder characterised by
CC   disregulation of the GH (growth hormone)/IGF axis in a mammal comprising
CC   administering (I); and (2) a kit for carrying out the method of (1). (I)
CC   can have cardiant, nephrotropic, hepatotropic, anabolic and antidiabetic
CC   activities. The IGF-1 variant is useful for treating disorders such as a
CC   hyperglycaemic disorder, a renal disorder, congestive heart failure,
CC   hepatic failure, poor nutrition, a wasting syndrome, or a catabolic state
CC   where IGFBP-1 (IGF binding protein) levels are increased relative to the
CC   levels in a mammal without the disorder. The present sequence represents
CC   the native human IGF-1 protein sequence
XX
SQ   Sequence 70 AA;

  Query Match             100.0%;  Score 385;  DB 3;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 2.8e-33;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         61 CAPLKPAKSA 70


RESULT 21
AAB35948
ID   AAB35948 standard; protein; 70 AA.
XX
AC   AAB35948;
XX
DT   26-FEB-2001  (first entry)
XX
DE   IGF-1A amino acid sequence.
XX
KW   Heparin binding; vascular graft; matrix; cell adhesion; growth factor;
KW   wound healing; dermal wound; wound healing; IGF-1A.
XX
OS   Unidentified.
XX
PN   WO200064481-A1.
XX
PD   02-NOV-2000.
XX
PF   22-APR-1999;   99WO-IB000800.
XX
PR   22-APR-1999;   99WO-IB000800.
XX
PA   (ETHZ-) ETH ZURICH & UNIV ZURICH.
XX
PI   Sakiyama SE,  Hubbell JA;
XX
DR   WPI; 2001-024627/03.
XX
PT   Matrix for controlled release of growth factor for wound healing, has
PT   substrate that attaches heparin binding peptide, protein growth factor
PT   that bind heparin with low affinity, and heparin or heparin-like polymer.
XX
PS   Example 5; Page 21; 48pp; English.
XX
CC   This invention relates to a matrix comprising a substrate capable of
CC   providing attachment of a heparin binding peptide (HBP), a peptide
CC   comprising a binding domain which binds heparin with high affinity,
CC   heparin or heparin-like polymer, and a protein growth factor or peptide
CC   fragment which has a domain that binds heparin with low affinity.
CC   Included in the invention is a vascular graft comprising the matrix,
CC   which is capable of supporting cell adhesion. The matrix is used for
CC   delivering low heparin binding affinity growth factor proteins or
CC   peptides in a controlled manner suitable for wound healing. The matrix
CC   can be used in an article for treating dermal wounds, and in an
CC   implantable sterilized composition capable of supporting cell adhesion.
CC   The present sequence represents a growth factor protein. The protein is
CC   used in an example illustrating that non-heparin-binding growth factors
CC   can be released in a controlled manner from heparin-based drug delivery
CC   systems based on their low affinity for heparin
XX
SQ   Sequence 70 AA;

  Query Match             100.0%;  Score 385;  DB 4;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 2.8e-33;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         61 CAPLKPAKSA 70


RESULT 22
AAB35949
ID   AAB35949 standard; protein; 70 AA.
XX
AC   AAB35949;
XX
DT   26-FEB-2001  (first entry)
XX
```

DE IGF-1B amino acid sequence.
XX
KW Heparin binding; vascular graft; matrix; cell adhesion; growth factor;
KW wound healing; dermal wound; wound healing; IGF-1B.
XX
OS Unidentified.
XX
PN WO200064481-A1.
XX
PD 02-NOV-2000.
XX
PF 22-APR-1999; 99WO-IB000800.
XX
PR 22-APR-1999; 99WO-IB000800.
XX
PA (ETHZ-) ETH ZURICH & UNIV ZURICH.
XX
PI Sakiyama SE, Hubbell JA;
XX
DR WPI; 2001-024627/03.
XX
PT Matrix for controlled release of growth factor for wound healing, has
PT substrate that attaches heparin binding peptide, protein growth factor
PT that bind heparin with low affinity, and heparin or heparin-like polymer.
XX
PS Example 5; Page 21; 48pp; English.
XX
CC This invention relates to a matrix comprising a substrate capable of
CC providing attachment of a heparin binding peptide (HBP), a peptide
CC comprising a binding domain which binds heparin with high affinity,
CC heparin or heparin-like polymer, and a protein growth factor or peptide
CC fragment which has a domain that binds heparin with low affinity.
CC Included in the invention is a vascular graft comprising the matrix,
CC which is capable of supporting cell adhesion. The matrix is used for
CC delivering low heparin binding affinity growth factor proteins or
CC peptides in a controlled manner suitable for wound healing. The matrix
CC can be used in an article for treating dermal wounds, and in an
CC implantable sterilized composition capable of supporting cell adhesion.
CC The present sequence represents a growth factor protein. The protein is
CC used in an example illustrating that non-heparin-binding growth factors
CC can be released in a controlled manner from heparin-based drug delivery
CC systems based on their low affinity for heparin
XX
SQ Sequence 70 AA;

Query Match 100.0%; Score 385; DB 4; Length 70;
Best Local Similarity 100.0%; Pred. No. 2.8e-33;
Matches 70; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy 61 CAPLKPAKSA 70
||||||||||
Db 61 CAPLKPAKSA 70

RESULT 23
AAE18374
ID AAE18374 standard; peptide; 70 AA.
XX
AC AAE18374;
XX
DT 07-MAY-2002 (first entry)
XX
DE Human mature insulin-like growth factor 1 (IGF-1).
XX
KW Human; bifunctional molecule; monoclonal antibody; gene therapy; cancer;
KW vascular disorder; diabetic retinopathy; restenosis; ophthalmic disorder;
KW hyperproliferative disorder; hormonal disorder; cytostatic; vasotropic;
KW ophthalmological; insulin-like growth factor 1; IGF-1.
XX
OS Homo sapiens.
XX
PN WO200204522-A2.
XX
PD 17-JAN-2002.
XX
PF 09-JUL-2001; 2001WO-EP007878.
XX
PR 10-JUL-2000; 2000US-00613017.
XX
PA (NOVS) NOVARTIS AG.
PA (NOVS) NOVARTIS-ERFINDUNGEN VERW GES MBH.
PA (SCRI) SCRIPPS RES INST.
XX
PI Nemerow GR, Li E;
XX
DR WPI; 2002-171707/22.
XX
PT New bifunctional molecules comprising an antibody or its antigen-binding
PT portion, and a targeting agent, useful for e.g. gene therapy, or for
PT promoting Adenoviral vector-mediated gene delivery to cells lacking av
PT integrins.
XX
PS Claim 15; Page 97; 106pp; English.
XX
CC The present invention relates to a bifunctional molecule comprising an
CC antibody or its antigen-binding portion, and a targetting agent where the
CC antibody specifically binds to an antigen in a protein that binds to av
CC integrin, and the targetting agent specifically binds to a cell surface
CC protein that activates the phosphatidylinositol 3 (PI3K) signalling
CC pathway. The bifunctional molecules are useful for gene therapy, for
CC promoting Adenoviral (Ad) vector-mediated gene delivery to cells lacking
CC av integrins, for enhancing Ad binding and internalisation, and in gene
CC delivery of by fibreless adenovirus particles. The bifunctional molecules
CC permit targetting of viral and bacterial vectors to cells that express
CC targetted receptors. Diseases that can be targetted include cancers,
CC vascular disorders, diabetic retinopathies, restenosis, ophthalmic
CC disorders, hyperproliferative disorders, and hormonal disorders. The
CC present sequence is human mature insulin-like growth factor 1 (IGF-1)
CC which is used to generate fusion protein used in the invention
XX
SQ Sequence 70 AA;

Query Match 100.0%; Score 385; DB 5; Length 70;
Best Local Similarity 100.0%; Pred. No. 2.8e-33;
Matches 70; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy 61 CAPLKPAKSA 70
||||||||||
Db 61 CAPLKPAKSA 70

RESULT 24
AAM48217
ID AAM48217 standard; protein; 70 AA.
XX
AC AAM48217;
XX
DT 18-MAR-2002 (first entry)
XX
DE Human insulin-like growth factor-1, IGF-1.
XX
KW Antirheumatic; antiarthritic; osteopathic; cartilage disorder;
KW insulin-like growth factor; IGF; binding protein; IGFBP;
KW rheumatoid arthritis; osteoarthritis; human.
XX
OS Homo sapiens.
XX
PN WO200187323-A2.

```
XX
PD   22-NOV-2001.
XX
PF   16-MAY-2001; 2001WO-US015904.
XX
PR   16-MAY-2000; 2000US-0204490P.
PR   15-NOV-2000; 2000US-0248985P.
XX
PA   (GETH ) GENENTECH INC.
XX
PI   Dubaquie Y,  Filvaroff EH,  Lowman HB;
XX
DR   WPI; 2002-082942/11.
XX
PT   Treating cartilage disorders including cartilage damage by injury or
PT   degenerative cartilagenous disorders, by contacting cartilage with
PT   insulin-like growth factor analog with altered affinity for IGF-binding
PT   proteins.
XX
PS   Disclosure; Fig 16; 136pp; English.
XX
CC   The present invention relates to a method for treating cartilage
CC   disorders. The method comprises contacting cartilage with an active agent
CC   such as insulin-like growth factor (IGF-1) analog with a binding affinity
CC   preference for IGF binding protein-3 (IGFBP-3) over IGFBP-1, an IGF-1
CC   analog with a binding affinity preference for IGFBP-1 over IGFBP-3, or a
CC   IGFBP displacer peptide that prevents the interaction of IGF with an
CC   IGFBP and does not bind to human IGF receptor. The method is useful for
CC   treating cartilage disorders (CD), including degenerative CD, articular
CC   CD such as rheumatoid arthritis and osteoarthritis. The present sequence
CC   is human IGF-1, which was used to illustrate the invention
XX
SQ   Sequence 70 AA;

  Query Match             100.0%;  Score 385;  DB 5;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 2.8e-33;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         61 CAPLKPAKSA 70


RESULT 25
AAE27890
ID   AAE27890 standard; protein; 70 AA.
XX
AC   AAE27890;
XX
DT   27-DEC-2002  (first entry)
XX
DE   Human codon optimised insulin-like growth factor 1 (IGF).
XX
KW   Human; feed improvement; plant-derived feed; antibiotic; additive;
KW   anti-microbial; poultry; insulin-like growth factor 1; flour; malt; IGF.
XX
OS   Homo sapiens.
OS   Synthetic.
XX
PN   WO200263975-A2.
XX
PD   22-AUG-2002.
XX
PF   14-FEB-2002; 2002WO-US004919.
XX
PR   14-FEB-2001; 2001US-0269188P.
PR   02-MAY-2001; 2001US-00847232.
XX
PA   (VENT-) VENTRIA BIOSCIENCE.
XX
PI   Huang N,  Rodriguez RL,  Hagie FE;
XX
DR   WPI; 2002-682708/73.
DR   N-PSDB; AAD45352.
XX
PT   Improved feed for production animals, comprising plant-derived feed
PT   ingredients, and seed composition containing flour, extract, or malt from
PT   mature monocot seeds and heterologous seed-produced anti-microbial
PT   proteins.
XX
PS   Disclosure; Fig 24; 175pp; English.
XX
CC   The invention relates to improved feed for production animals, comprising
CC   one or more plant-derived feed ingredients, substantially unsupplemented
CC   with small-molecule antibiotics and as an additive a seed composition
CC   containing a flour, extract or malt obtained from mature monocot seeds
CC   and one or more heterologous seed-produced anti- microbial proteins in
CC   substantially unpurified form. The invention is useful as a feed for
CC   production animals such as poultry and hoofed farm animals. The present
CC   sequence is human codon optimised insulin- like growth factor 1 (IGF).
CC   This sequence is used in the invention
XX
SQ   Sequence 70 AA;

  Query Match             100.0%;  Score 385;  DB 5;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 2.8e-33;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         61 CAPLKPAKSA 70


RESULT 26
AAE28004
ID   AAE28004 standard; protein; 70 AA.
XX
AC   AAE28004;
XX
DT   13-DEC-2002  (first entry)
XX
DE   Human codon optimised insulin growth factor (IGF-1).
XX
KW   Human; plant-derived food; flour; malt; monocot seed; milk protein;
KW   infant formula; insulin growth factor; IGF-1.
XX
OS   Homo sapiens.
OS   Synthetic.
XX
PN   WO200264814-A2.
XX
PD   22-AUG-2002.
XX
PF   14-FEB-2002; 2002WO-US004921.
XX
PR   14-FEB-2001; 2001US-0269199P.
PR   02-MAY-2001; 2001US-00847232.
XX
PA   (VENT-) VENTRIA BIOSCIENCE.
XX
PI   Huang N,  Rodriguez RL,  Hagie FE;
XX
DR   WPI; 2002-667011/71.
DR   N-PSDB; AAD44954.
XX
PT   New nutritionally enhanced food compositions, useful for improving infant
PT   formula, or supplementing or enhancing the diet of infants, particularly
PT   very-low birth weight infants.
```

```
XX
PS   Example 6; Fig 24; 179pp; English.
XX
CC   The invention relates to a nutritionally enhanced food comprising one or
CC   more plant-derived food ingredients, and as an additive, a seed
CC   composition containing a flour, extract, or malt obtained from mature
CC   monocot seeds and one or more seed-produced human milk proteins in
CC   substantially unpurified form. The nutritionally enhanced food and food
CC   additive compositions are useful for improving infant formula. Infant
CC   formulas containing the recombinant human milk proteins are useful in
CC   supplementing or enhancing the diet of infants, particularly very-low
CC   birth weight infants. The present sequence is human insulin growth factor
CC   (IGF-1) native DNA
XX
SQ   Sequence 70 AA;

  Query Match             100.0%;  Score 385;  DB 5;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 2.8e-33;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         61 CAPLKPAKSA 70


RESULT 27
AAB71497
ID   AAB71497 standard; protein; 70 AA.
XX
AC   AAB71497;
XX
DT   05-DEC-2002  (first entry)
XX
DE   Human IGF-1 protein fragment.
XX
KW   IGF-1; insulin; human; crystal structure; antidiabetic; anorectic;
KW   insulin-like growth factor; cardiant; anti-HIV; immunostimulant; AIDS;
KW   IGF-1 receptor-binding region; diabetes; obesity; heart dysfunction;
KW   acquired immunodeficiency syndrome; wasting; kidney disorder; necrosis;
KW   neurological disorder; whole body growth disorder; Turner's syndrome;
KW   immunological disorder; insulin resistance; protein coordinate data.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Region          1. .28
FT                   /label= A_chain
FT   Binding-site    3
FT                   /note= "IGFBP-1 and IGFBP-3 binding site"
FT   Binding-site    5
FT                   /note= "IGFBP-1 and IGFBP-3 binding site"
FT   Binding-site    7
FT                   /note= "IGFBP-1 and IGFBP-3 binding site"
FT   Binding-site    11
FT                   /note= "IGFBP-1 and IGFBP-3 binding site"
FT   Binding-site    17
FT                   /note= "IGFBP-1 and IGFBP-3 binding site"
FT   Binding-site    18
FT                   /note= "IGFBP-1 and IGFBP-3 binding site"
FT   Binding-site    26
FT                   /note= "IGF-1 receptor binding site"
FT   Binding-site    27
FT                   /note= "IGFBP-1 and IGFBP-3 binding site"
FT   Region          29. .41
FT                   /label= B_chain
FT   Binding-site    30
FT                   /note= "IGF-1 receptor binding site"
FT   Binding-site    32
FT                   /note= "IGF-1 receptor binding site"
FT   Region          42. .62
FT                   /label= C_chain
FT   Binding-site    50
FT                   /note= "IGFBP-1 and IGFBP-3 binding site"
FT   Binding-site    60
FT                   /note= "IGF-1 receptor binding site"
FT   Region          63. .70
FT                   /label= D_region
FT   Binding-site    63
FT                   /note= "IGFBP-1 and IGFBP-3 binding site"
XX
PN   WO200264627-A2.
XX
PD   22-AUG-2002.
XX
PF   01-FEB-2002; 2002WO-US003156.
XX
PR   09-FEB-2001; 2001US-0267977P.
PR   27-APR-2001; 2001US-0287072P.
XX
PA   (GETH ) GENENTECH INC.
XX
PI   Schaffer M,  Ultsch M,  Vajdos F;
XX
DR   WPI; 2002-723170/78.
XX
PT   Crystal formed by insulin-like growth factor-1, IGF-1, useful for
PT   treating agonist disorders, diffracts x-ray radiation to produce a
PT   diffraction pattern representing the three-dimensional structure of IGF-
PT   1.
XX
PS   Example 1; Fig 1; 67pp; English.
XX
CC   This invention describes a novel crystal formed by insulin-like growth
CC   factor-1 (IGF-1) that diffracts X-ray radiation to produce a diffraction
CC   pattern representing the three-dimensional structure of IGF-1. The
CC   products of the invention have antidiabetic, anorectic, cardiant, anti-
CC   HIV and immunostimulant activity. The novel crystal includes an IGF-1
CC   receptor-binding region, useful for identifying compounds having
CC   structures that interact with the receptor-binding region of the 3-D
CC   structure of IGF-1 and function as an IGF-1 agonist or antagonist.
CC   Compositions utilising the novel crystal structure are useful for
CC   treating a mammal, especially human suffering from a disorder such as
CC   diabetes; obesity, heart dysfunction, acquired immunodeficiency syndrome
CC   (AIDS)-related wasting, kidney disorder, neurological disorder, whole
CC   body growth disorder, immunological disorders, Turner's syndrome, insulin
CC   resistance and necrosis. Crystalline IGF-1 is useful for computationally
CC   or experimentally evaluating a chemical entity to obtain information
CC   about its association with a binding site of IGF-1, for designing
CC   chemical entities that bind to or associate with IGF-1, and for altering
CC   physical properties of the chemical entities in different ways and for
CC   solving the crystal structures of mutants, co-complexes, or crystalline
CC   form of any other molecule homologous to or capable of associating with a
CC   portion of IGF-1. Peptidomimetics containing the crystal structure are
CC   useful for designing a compound that mimics the 3-dimensional surface
CC   structure of IGF-1. The crystal is useful as a standard or control in a
CC   diagnosing setting, for e.g. as a molecular weight marker or ELISA,
CC   radioassay, radioreceptor assay control and studying binding properties
CC   of IGF-1, IGFBPs and IGF-1 receptors. This sequence represents the human
CC   IGF-1 protein fragment described in the disclosure of the invention
XX
SQ   Sequence 70 AA;

  Query Match             100.0%;  Score 385;  DB 5;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 2.8e-33;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              ||||||||||
```

```
Db         61 CAPLKPAKSA 70

RESULT 28
ABG76349
ID   ABG76349 standard; protein; 70 AA.
XX
AC   ABG76349;
XX
DT   10-MAY-2003  (first entry)
XX
DE   Human full length mature IGF-1 protein.
XX
KW   Human; bifunctional molecule; antigen-binding portion; alpha integrin;
KW   cell surface protein; phosphatidylinositol-3-OH kinase; PI3K;
KW   signalling pathway; targeted gene therapy; delivery vector;
KW   adenoviral gene delivery particle; viral infection; cancer;
KW   rheumatoid arthritis; cardiovascular disorder; diabetic retinopathy;
KW   restenosis; ophthalmic disorder; hyperproliferative disorder;
KW   hormonal disorder; virucide; antiinflammatory; antirheumatic;
KW   antiarthritic; ophthalmological; DAV-1 antibody; IGF-1;
KW   insulin-like growth factor-1.
XX
OS   Homo sapiens.
XX
PN   US2002164333-A1.
XX
PD   07-NOV-2002.
XX
PF   10-JUL-2001; 2001US-00903327.
XX
PR   10-JUL-2000; 2000US-00613017.
PR   10-JUL-2000; 2000US-0325781P.
XX
PA   (SCRI ) SCRIPPS RES INST.
XX
PI   Nemerow GR,  Li E;
XX
DR   WPI; 2002-171707/22.
XX
PT   New bifunctional molecules comprising an antibody or its antigen-binding
PT   portion, and a targeting agent, useful for e.g. gene therapy, or for
PT   promoting Adenoviral vector-mediated gene delivery to cells lacking av
PT   integrins.
XX
PS   Example 2; Page 37; 49pp; English.
XX
CC   The present invention relates to a bifunctional molecule comprising an
CC   antibody or its antigen-binding portion, and a targeting agent. The
CC   antibody specifically binds to an antigen in a protein that binds to
CC   alpha integrin, and the targeting agent specifically binds to a cell
CC   surface protein that activates the phosphatidylinositol-3-OH kinase
CC   (PI3K) signalling pathway. The bifunctional molecules are useful for
CC   targeted gene therapy using targeting delivery vectors, such as
CC   adenoviral gene delivery particles. The bifunctional molecules are useful
CC   for treating viral infections, rheumatoid arthritis, cancers,
CC   cardiovascular disorders, diabetic retinopathies, restenosis, ophthalmic
CC   disorders, hyperproliferative disorders, and hormonal disorders. The
CC   present sequence represents mature human insulin-like growth factor-1
CC   (IGF-1). It is used to prepare a fusion protein with mouse DAV-1 antibody
XX
SQ   Sequence 70 AA;

  Query Match          100.0%;  Score 385;  DB 5;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 2.8e-33;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         61 CAPLKPAKSA 70

RESULT 29
AAU90781
ID   AAU90781 standard; peptide; 70 AA.
XX
AC   AAU90781;
XX
DT   18-JUN-2002  (first entry)
XX
DE   Insulin/insulin-like growth factor receptor-binding peptide #2737.
XX
KW   Cytostatic; antidiabetic; neuroprotective; cerebroprotective;
KW   ophthalmological; insulin; receptor; gene therapy; diabetes;
KW   insulin-like growth factor-1; IGF-1; tumour; prostate; breast;
KW   diabetic retincpathy; neurological diseases; stroke; diabetic neuropathy.
XX
OS   Synthetic.
XX
PN   WO200172771-A2.
XX
PD   04-OCT-2001.
XX
PF   29-MAR-2000; 2000WO-US008528.
XX
PR   29-MAR-2000; 2000WO-US008528.
XX
PA   (DGIB-) DGI BIOTECHNOLOGIES LLC.
PA   (NOVO ) NOVO NORDISK AS.
XX
PI   Beasley J,  Blume AJ,  Schaeffer L,  Pillutla R,  Brandt J;
PI   Brissette R,  Spetzler J,  Cheng W,  Ostergaard S,  Mandecki WS;
PI   Hansen PH,  Ravera M,  Hsiao K;
XX
DR   WPI; 2002-025774/03.
XX
PT   Modulating insulin activity in mammalian cells, for treating e.g.
PT   diabetes and tumors, comprises using peptides that bind to insulin or
PT   insulin-like growth factor receptors.
XX
PS   Disclosure; Fig 18; 390pp; English.
XX
CC   The invention relates to a method of modulating insulin activity in
CC   mammalian cells by administering a peptide that binds the insulin
CC   receptor (IR). A composition containing a peptide, optionally expressed
CC   from gene therapy vectors, that binds to Site 1 of IR and an insulin
CC   agonist are useful for treating diabetes. Also, peptides that are
CC   antagonists of the insulin-like growth factor-1 (IGF-1) receptor are
CC   useful for treating insulin-like growth factor (IGF)-sensitive tumours
CC   (e.g. of prostate and breast) and diabetic retinopathy, while IGF-1
CC   receptor agonists are useful for treating neurological diseases,
CC   including stroke and diabetic neuropathy. The peptides are also useful in
CC   screening for compounds that bind to IR or IGF-1 receptor, potential
CC   therapeutics and research reagents. AAU88034-AAU90957 represent IR and/or
CC   IGF-1 receptor-binding peptides and related amino acid sequences of the
CC   invention
XX
SQ   Sequence 70 AA;

  Query Match          100.0%;  Score 385;  DB 5;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 2.8e-33;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         61 CAPLKPAKSA 70
```

RESULT 30
AAO16314
ID AAO16314 standard; protein; 70 AA.
XX
AC AAO16314;
XX
DT 20-MAR-2003 (first entry)
XX
DE Insulin-like growth factor I (IGF-I) protein.
XX
KW Crystal; X-ray diffraction; IGF-I; IGFBP; insulin-like growth factor;
KW insulin-like growth factor binding protein.
XX
OS Unidentified.
XX
PN WO200298914-A2.
XX
PD 12-DEC-2002.
XX
PF 05-JUN-2002; 2002WO-EP006161.
XX
PR 07-JUN-2001; 2001EP-00112958.
XX
PA (HOFF) HOFFMANN LA ROCHE & CO AG F.
XX
PI Beisel H, Demuth D, Engh R, Holak T, Huber R, Lang K;
PI Schumacher R, Zeslawski W;
XX
DR WPI; 2003-140589/13.
XX
PT New crystal comprising a complex of insulin-like growth factor IGF I or
PT II and a polypeptide, useful for X-ray diffraction.
XX
PS Disclosure; Fig 1A; 71pp; English.
XX
CC The invention comprises a crystal for X-ray diffraction, the crystal is a
CC complex of insulin-like growth factor (IGF) I or II and a region of an
CC insulin-like growth factor binding protein (IGFBP). The crystal of the
CC invention is useful for X-ray diffraction. The present amino acid
CC sequence represents an IGF-I protein
XX
SQ Sequence 70 AA;

Query Match 100.0%; Score 385; DB 6; Length 70;
Best Local Similarity 100.0%; Pred. No. 2.8e-33;
Matches 70; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy 61 CAPLKPAKSA 70
||||||||||
Db 61 CAPLKPAKSA 70

RESULT 31
AAP50872
ID AAP50872 standard; protein; 71 AA.
XX
AC AAP50872;
XX
DT 10-DEC-1991 (first entry)
XX
DE Synthetic human insulin-like growth factor.
XX
KW Insulin-like growth factor; hormone; recombinant plasmid; ss.
XX
OS Synthetic.
XX
PN EP130166-A.
XX
PD 02-JAN-1985.
XX
PF 20-JUN-1984; 84EP-00850197.
XX
PR 23-JUN-1983; 83SE-00003626.
XX
PA (KABI) KABIGEN AB.
XX
PI Elmblad A, Palm G, Josephson S, Heden LO, Holmgren E;
XX
DR WPI; 1985-008094/02.
DR N-PSDB; AAN50536.
XX
PT Prodn. of human insulin-like growth factor - by cultivation of
PT transformant microorganism including recombinant plasmid.
XX
PS Disclosure; Fig 1; 44pp; English.
XX
CC The IGF-1 can be obtained easily and in appreciable amounts for use in
CC the production of antibodies and in biological studies, etc. See also
CC AAN50537-39 and AAP50873
XX
SQ Sequence 71 AA;

Query Match 100.0%; Score 385; DB 1; Length 71;
Best Local Similarity 100.0%; Pred. No. 2.8e-33;
Matches 70; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db 2 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 61

Qy 61 CAPLKPAKSA 70
||||||||||
Db 62 CAPLKPAKSA 71

RESULT 32
AAP81203
ID AAP81203 standard; protein; 71 AA.
XX
AC AAP81203;
XX
DT 03-DEC-1990 (first entry)
XX
DE Synthetic human insulin growth factor (h-IGF).
XX
KW human insulin growth factor (h-IGF); pCMV-bGHb;
KW cytomegalovirus immediate early promoter.
XX
OS Synthetic.
XX
PN EP266057-A.
XX
PD 04-MAY-1988.
XX
PF 25-SEP-1987; 87EP-00308484.
XX
PR 01-OCT-1986; 86US-00913909.
XX
PA (MERI) MERCK & CO INC.
XX
PI Bayne ML, Kopchick JJ;
XX
DR WPI; 1988-121149/18.
DR N-PSDB; AAN81557.
XX
PT Plasmids contg. cytomegalovirus immediate early promoter - used to
PT express and secrete mammalian proteins in biologically active form.
XX
PS Disclosure; Page ?; 15pp; English.
XX
CC h-IGF can be expressed by transformant mouse fibroblasts carrying a
CC plasmid in which the synthetic gene is placed under the control of

```
CC   cytomegalovirus immediate early (CMV-IE) promoter. The protein is
CC   secreted into the culture medium in biologically active form without the
CC   need for any additional biological or chemical processing
XX
SQ   Sequence 71 AA;

  Query Match             100.0%;  Score 385;  DB 1;  Length 71;
  Best Local Similarity   100.0%;  Pred. No. 2.8e-33;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          2 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 61

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         62 CAPLKPAKSA 71


RESULT 33
AAR05281
ID   AAR05281 standard; protein; 71 AA.
XX
AC   AAR05281;
XX
DT   25-MAR-2003  (revised)
DT   18-AUG-1990  (first entry)
XX
DE   Amino acid sequence of Insulin-like growth factor encoded by synthetic
DE   gene.
XX
KW   Insulin growth factor 1 analogue; somatomedin-C.
XX
OS   Homo sapiens.
XX
PN   US4888286-A.
XX
PD   19-DEC-1989.
XX
PF   24-MAR-1987;   87US-00030244.
XX
PR   06-FEB-1984;   84US-00577130.
XX
PA   (CREA-) CREATIVE BIOMOLECULES INC.
XX
PI   Crea R;
XX
DR   WPI; 1990-058374/08.
DR   N-PSDB; AAQ03403.
XX
PT   Altering sequence of native double stranded DNA of structural genes - to
PT   produce hybrid gene, including synthetic oligo-nucleotide cassette, e.g.
PT   encoding human pancreatic growth hormone-releasing factor.
XX
PS   Disclosure; Fig 2; 10pp; English.
XX
CC   The method of producing its DNA is claimed. It can be used as a drug, an
CC   enzyme and a synthetic vaccine. (Updated on 25-MAR-2003 to correct PF
CC   field.) (Updated on 25-MAR-2003 to correct PR field.) (Updated on 25-MAR-
CC   2003 to correct PA field.)
XX
SQ   Sequence 71 AA;

  Query Match             100.0%;  Score 385;  DB 2;  Length 71;
  Best Local Similarity   100.0%;  Pred. No. 2.8e-33;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          2 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 61

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         62 CAPLKPAKSA 71


RESULT 34
AAR21709
ID   AAR21709 standard; protein; 71 AA.
XX
AC   AAR21709;
XX
DT   25-MAR-2003  (revised)
DT   17-AUG-1992  (first entry)
XX
DE   Insulin-like Growth Factor-1.
XX
KW   Insulin-like growth factor-1; alpha-mating factor; prepro; region;
KW   Pichia pastoris; yeast; site-directed mutagenesis; spacer.
XX
OS   Synthetic.
XX
PN   WO9204363-A.
XX
PD   19-MAR-1992.
XX
PF   04-SEP-1991;   91WO-US006452.
XX
PR   04-SEP-1990;   90US-00578728.
XX
PA   (SALK ) SALK INST BIOTECHNOLOGY IND AS.
XX
PI   Brierley RA,  Davis GR,  Gleeson MA,  Howard BD;
XX
DR   WPI; 1992-114289/14.
DR   N-PSDB; AAQ23303.
XX
PT   Prodn. of insulin-like growth factor 1 - using DNA constructs in
PT   methylotrophic yeast cells.
XX
PS   Disclosure; Fig 1; 100pp; English.
XX
CC   Authentically folded, biologically active IGF-1 can be produced by
CC   transformant yeast. Expression of the IGF-1 coding sequence is controlled
CC   by a promoter from a methanol-responsive gene of methylotrophic yeast.
CC   The mature IGF-1 is secreted as a fusion protein; IGF-1 is fused to an
CC   appropriate signal peptide via one or more processing sites which are
CC   recognised by methylotrophic yeast proteases. See also AAQ23300-2.
CC   (Updated on 25-MAR-2003 to correct PA field.)
XX
SQ   Sequence 71 AA;

  Query Match             100.0%;  Score 385;  DB 2;  Length 71;
  Best Local Similarity   100.0%;  Pred. No. 2.8e-33;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          2 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 61

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         62 CAPLKPAKSA 71


RESULT 35
AAG62611
ID   AAG62611 standard; protein; 71 AA.
XX
AC   AAG62611;
XX
DT   06-SEP-2001  (first entry)
XX
DE   Human insulin-like growth factor 1.
XX
KW   Human; insulin-like growth factor 1; IGF-1; neuronal damage prevention;
```

KW central nervous system insult; hypothermia; neuroprotective;
KW ischaemia cerebrovascular disease.
XX
OS Homo sapiens.
XX
PN WO200137855-A2.
XX
PD 31-MAY-2001.
XX
PF 26-OCT-2000; 2000WO-US041591.
XX
PR 27-OCT-1999; 99US-0161798P.
XX
PA (CHIR) CHIRON CORP.
XX
PI Gluckman PD, Guan J, Gunn AJ;
XX
DR WPI; 2001-355748/37.
XX
PT Preventing or treating neuronal damage of the central nervous system,
PT comprises modulating the cerebral temperature and administering a
PT neurological therapeutic agent.
XX
PS Claim 6; Page 40; 41pp; English.
XX
CC The present invention describes a method of preventing or treating
CC neuronal damage following a central nervous system insult, involving
CC modulating the cerebral temperature and administering a neurologic
CC therapeutic agent. The agent may be a growth factor, such as fibroblast
CC growth factor (FGF) or insulin-like growth factor (IGF). The method is
CC particularly useful in the treatment of ischaemia cerebrovascular
CC disease. The present sequence is the human IGF protein
XX
SQ Sequence 71 AA;

Query Match 100.0%; Score 385; DB 4; Length 71;
Best Local Similarity 100.0%; Pred. No. 2.8e-33;
Matches 70; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db 2 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 61

Qy 61 CAPLKPAKSA 70
||||||||||
Db 62 CAPLKPAKSA 71

RESULT 36
AAR63194
ID AAR63194 standard; protein; 72 AA.
XX
AC AAR63194;
XX
DT 13-JUL-1995 (first entry)
XX
DE Insulin-like growth factor-1.
XX
KW IGF-1; insulin-like growth factor; recombinant production;
KW expression vector pHT-hEGF-R-X.
XX
OS Homo sapiens.
XX
PN JP06253862-A.
XX
PD 13-SEP-1994.
XX
PF 01-MAR-1993; 93JP-00062455.
XX
PR 01-MAR-1993; 93JP-00062455.
XX
PA (HGET) HIGETA SHOYU KK.
XX
DR WPI; 1994-329004/41.
DR N-PSDB; AAQ77682.
XX
PT Expression vector pHT.hEGF.R.X and microorganism contg. it - is useful
PT for expression of foreign gene.
XX
PS Example 1; Fig 13; 17pp; Japanese.
XX
CC The expression vector pHT.hEGF.R.X comprises the erythromycin resistance
CC gene, a bacterial protein secretion coding sequence, a sequence coding
CC for hEGF, a protease recognition sequence (R) and a sequence coding for a
CC desired heterologous protein (X). The vector is used to transform
CC Bacillus brevis hosts for recombinant production of the heterologous
CC protein, e.g. IGF-1
XX
SQ Sequence 72 AA;

Query Match 100.0%; Score 385; DB 2; Length 72;
Best Local Similarity 100.0%; Pred. No. 2.9e-33;
Matches 70; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db 3 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 62

Qy 61 CAPLKPAKSA 70
||||||||||
Db 63 CAPLKPAKSA 72

RESULT 37
AAR13759
ID AAR13759 standard; protein; 74 AA.
XX
AC AAR13759;
XX
DT 10-MAR-2003 (revised)
DT 21-NOV-1991 (first entry)
XX
DE Beta-gal/IGF-1 fusion protein (II).
XX
KW Insulin-like growth factor; fusion protein; hydroxylamine;
KW recognition site; beta-galactosidase; diabetes; cleavage.
XX
OS Unidentified.
XX
FH Key Location/Qualifiers
FT Peptide 1
FT /label= beta-gal
FT /note= "N-terminal portion"
FT Protein 5. .74
FT /label= mature_IGF-1
XX
PN GB2241703-A.
XX
PD 11-SEP-1991.
XX
PF 04-MAR-1991; 91GB-00004524.
XX
PR 05-MAR-1990; 90KR-00002811.
XX
PA (KOSC-) KOREA INST SCI TECH.
XX
PI Lee YI, Kwak JW, Park HD, Young IS, Hoon KY, Sun YM;
XX
DR WPI; 1991-269338/37.
DR N-PSDB; AAQ13569.
XX
PT Prepn. of insulin-like growth factor 1 (IGF-1)films - by E. coli
PT transformant contg. improved expression vector, expressing fusion protein
PT cleavable with enterokinase to give TgF-1.
XX
PS Example 6; Page 14-15; 36pp; English.

```
XX
CC   IGF-1 is expressed in the form of a fusion protein with beta-
CC   galactosidase. Since the DNA sequence corresp. to amino acid sequence Asn
CC   -Gly, which is the hydroxylamine cleavage site, is present in the portion
CC   of the DNA sequence linking beta-galactosidase with IGF-1 protein, the
CC   treatment of the expressed beta-gal/IGF-1 fusion protein with
CC   hydroxylamine permits the isolation of only the IGF-1 protein. The
CC   expression method produces IGF-1 in high yield using a simple procedure.
CC   IGF-1 can be used for controlling the blood glucose level in diabetic
CC   patients who cannot be treated with insulin, for local treatment of bone
CC   fracture and for treating congenital or acquired growth failure patients.
CC   The hydroxylamine method (and the enzymatic method - see AAQ13568) used
CC   for cleavage of the fusion protein is more precise than the prior art use
CC   of CNBr. (Updated on 10-MAR-2003 to add missing OS field.)
XX
SQ   Sequence 74 AA;

  Query Match             100.0%;  Score 385;  DB 2;  Length 74;
  Best Local Similarity   100.0%;  Pred. No. 2.9e-33;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          5 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 64

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         65 CAPLKPAKSA 74


RESULT 38
AAR41776
ID   AAR41776 standard; protein; 75 AA.
XX
AC   AAR41776;
XX
DT   25-MAR-2003  (revised)
DT   25-MAR-1994  (first entry)
XX
DE   Modified hIGF-I.
XX
KW   Human; insulin-like growth factor; hIGF-I; reading frame;
KW   secretory signal; transcription; regulation; vector; host cell; yeast;
KW   IGF-II; "pre"-IGF.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Peptide         1. .5
FT                   /note= "Pre-peptide"
FT   Protein         6. .75
FT                   /note= "hIGF-I"
XX
PN   EP561137-A1.
XX
PD   22-SEP-1993.
XX
PF   13-APR-1984;   93EP-00101654.
XX
PR   25-APR-1983;   83US-00487950.
PR   13-APR-1984;   84EP-00104175.
XX
PA   (CHIR ) CHIRON CORP.
XX
PI   Barr PJ,  Merryweather JP,  Mullenbach G,  Urdea MS;
XX
DR   WPI; 1993-296480/38.
DR   N-PSDB; AAQ48494.
XX
PT   Prodn. of human IGF in unicellular host cells, used as a biologically
PT   active medicament - by joining IGF genes to a secretory leader and
PT   processing signal sequences recognised by host then introducing vector
PT   into cells for growth.
XX
PS   Example; Page 5; 30pp; English.
XX
CC   This sequence represents a modified human insulin-like growth factor I
CC   (hIGF-I). This sequence also includes a pre-sequence encoded by yeast
CC   prefered codons, as is the rest of the gene. The DNA encoding this
CC   sequence was joined in proper reading frame with a secretory leader and
CC   processing signal sequences recognised by host cells to form a structural
CC   gene downstream from and under the transcriptional regulatory control of
CC   a transcription initiation region in a vector compatible with the chosen
CC   host cells. The prepared vector may be used in the efficient production
CC   of hIGF-I by unicellular host cells, esp. yeast. Mature human IGF-I and
CC   IGF-II (see also AAQ48492-93) produced in this manner may be used in
CC   medicaments. The synthetic coding sequence, pref. containing host-
CC   preferred codons, is joined in the same reading frame to secretion and
CC   processing signals which allow "pre"-IGF to be secreted by the host. This
CC   facilitates purification. (Updated on 25-MAR-2003 to correct PN field.)
CC   (Updated on 25-MAR-2003 to correct PF field.) (Updated on 25-MAR-2003 to
CC   correct PR field.)
XX
SQ   Sequence 75 AA;

  Query Match             100.0%;  Score 385;  DB 2;  Length 75;
  Best Local Similarity   100.0%;  Pred. No. 3e-33;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          6 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 65

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         66 CAPLKPAKSA 75


RESULT 39
AAR13758
ID   AAR13758 standard; protein; 76 AA.
XX
AC   AAR13758;
XX
DT   10-MAR-2003  (revised)
DT   21-NOV-1991  (first entry)
XX
DE   Beta-gal IGF-1 fusion protein (I).
XX
KW   Insulin-like growth factor; fusion protein; enterokinase;
KW   recognition site; beta-galactosidase; diabetes; cleavage.
XX
OS   Unidentified.
XX
FH   Key             Location/Qualifiers
FT   Peptide         1
FT                   /label= beta-gal
FT                   /note= "representing N-terminal portion"
FT   Region          2. .6
FT                   /label= linker
FT                   /note= "enterokinase recognition site"
FT   Protein         7. .76
FT                   /label= IGF-1
FT                   /note= "mature"
XX
PN   GB2241703-A.
XX
PD   11-SEP-1991.
XX
PF   04-MAR-1991;   91GB-00004524.
XX
PR   05-MAR-1990;   90KR-00002811.
XX
PA   (KOSC-) KOREA INST SCI TECH.
XX
PI   Lee YI,  Kwak JW,  Park HD,  Young IS,  Hoon KY,  Sun YM;
```

WPI; 1991-269338/37.
N-PSDB; AAQ13568.

Prepn. of insulin-like growth factor 1 (IGF-1)films - by E. coli transformant contg. improved expression vector, expressing fusion protein cleavable with enterokinase to give TgF-1.

Example 3; Page 11-12; 36pp; English.

IGF-1 is expressed in the form of a fusion protein with beta-galactosidase. Since the DNA sequence corresp. to amino acid sequence (Asp)4-Lys, which is the enzyme enterokinase recognition site, is present in the portion of the DNA sequence linking beta-galactosidase with IGF-1 protein, the treatment of the expressed beta-gal/IGF-1 fusion protein with enterokinase permits the isolation of only the IGF-1 protein. The expression method produces IGF-1 in high yield using a simple procedure. IGF-1 can be used for controlling the blood glucose level in diabetic patients who cannot be treated with insulin, for local treatment of bone fracture and for treating congenital or acquired growth failure patients. The enzymatic method (and hydroxylamine method - see AAQ13569) used for cleavage of the fusion protein is more precise than the prior art use of CNBr. (Updated on 10-MAR-2003 to add missing OS field.)

Sequence 76 AA;

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Query Match             100.0%;  Score 385;  DB 2;  Length 76;
Best Local Similarity   100.0%;  Pred. No. 3e-33;
Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
            ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
          7 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 66

         61 CAPLKPAKSA 70
            ||||||||||
         67 CAPLKPAKSA 76
```

SULT 40
P81213
AAP81213 standard; protein; 78 AA.

AAP81213;

25-MAR-2003 (revised)
07-DEC-1990 (first entry)

Insulin-like growth factor-I (Fra-B-11=Fra-A-4).

Insulin-like growth factor-I; Fra-B-11; Fra-A-4; protease cleavage; methionine-insulin-like growth factor I; gamma-interferon; linker DNA; two-cistronic Met-IGF-1 expression vector.

Synthetic.

EP264074-A.

20-APR-1988.

08-OCT-1987; 87EP-00114733.

09-OCT-1986; 86JP-00240702.
09-OCT-1987; 87JP-00255818.

(FUJI) FUJISAWA PHARM CO LTD.

Ikuo U, Mineo N, Yoshimasa S, Yoshinori I, Tadashi K;

WPI; 1988-106856/16.
N-PSDB; AAN81574.

Prepn. of methionine-insulin-like growth factor I - comprises use of recombinant DNA expression vector as transformant in Escherichia coli.

PS Disclosure; Page ?; 57pp; English.

CC A two-cistronic vector functional and replicatable in E. coli, which
CC essentially contains DNA encoding IGF-1 and a protective peptide capable
CC of preventing the cellular proteases from decomposing IGF-1 was
CC constructed. The DNA fragment (Fra-A-7) (AAN81580) useful in the
CC construction of the two-cistronic IGF-1 expression vector was prepared as
CC follows. Fra-B-4 (AAN81567) was ligated into the large EcoRI-BamHI
CC restriction site of plasmid pTrpEB7 to form pLHtrp encoding trp promoter
CC I and LH. IGF-1-encoding gene was prepared by digesting pBR322 with EcoRI
CC and BamHI and ligating the fragment Fra-B-10 (0N81573) to form pSdm1.
CC From plasmid, EcoRI-BamHI restriction fragment encoding IGF-1 was
CC isolated and to which fragment was ligated oligonucleotides m1 and m2 to
CC form Fra-B-11. Fra-B-11 was ligated into HindIII-BamHI fragment of pLHtrp
CC to form pLHSdMmtrp. See also AAN81565-82. (Updated on 25-MAR-2003 to
CC correct PR field.) (Updated on 25-MAR-2003 to correct PA field.)

SQ Sequence 78 AA;

```
  Query Match             100.0%;  Score 385;  DB 1;  Length 78;
  Best Local Similarity   100.0%;  Pred. No. 3.1e-33;
  Matches   70;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          9 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 68

Qy         61 CAPLKPAKSA 70
              ||||||||||
Db         69 CAPLKPAKSA 78
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